

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

**AMERICAN PATENT DEVELOPMENT
CORPORATION, LLC,**

Plaintiff,

V.

MOVIELINK, LLC,

Defendant.

C.A. No. 07-605-JJF

PLAINTIFF'S OPENING CLAIM CONSTRUCTION BRIEF

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TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
ARGUMENT	1
A. The Law Governing Claim Construction.....	1
B. Claims That APDC Contends Movielink Infringes.....	3
C. Claim Terms in Dispute.....	4
1. "central station. "	4
2. "user site."	7
3. "video product."	7
4. "data establishing a limit for authorized viewing of said video product".....	8
5. "transmitting from said central station to said user site a digital data stream comprising said video product, and data establishing a limit for authorized viewing of said video product. "	9
6. "decoding said data establishing a limit."	13
7. "storing a result of said decoding step."	14
8. "blocking access."	15
9. "comparing an output of said local clock signal generator with said result of said decoding step."	16
10. "erasing said video product."	17
CONCLUSION.....	18

TABLE OF AUTHORITIES

Page

CASES

Broadcast Innovation, LLC v. Echostar Commc'n Corp., 240 F. Supp. 2d 1127 (D. Colo. 2003).....	10
CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359 (Fed. Cir. 2002)	2
Comark Commc'n v. Harris Corp., 156 F.3d 1182 (Fed. Cir. 1998)	2
Commissariat a l'Energie Atomique v. Samsung Electronics Co., 524 F. Supp. 2d 546 (D. Del. 2007).....	12
Ekchian v. Home Depot, Inc., 104 F.3d 1299 (Fed. Cir. 1997)	2
Ex parte Schwarze, 151 U.S.P.Q. (BNA) 426 (Bd. App. 1966).....	6
Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc., 222 F.3d 951 (Fed. Cir. 2000)	2
In re Reynolds, 443 F.2d 384 (CCPA 1971)	5, 15
Karlin Tech. Inc. v. Surgical Dynamics, Inc., 177 F.3d 968 (Fed. Cir. 1999)	2
Kennecott Corp. v. Kyocera Int'l, Inc., 835 F.2d 1419 (Fed. Cir. 1987)	5
Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed. Cir. 1995) <u>aff'd</u> , 517 U.S. 370 (1996)	1
Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc., 976 F.2d 1559 (Fed. Cir. 1992)	2
Pfizer v. Ranbaxy Labs, Ltd., 457 F.3d 1284 (Fed. Cir. 2006)	2

Phillips v. AWH Corp., 415 F.3d 1303 (Fed. Cir. 2005)	passim
Serrano v. Tellular Corp., 111 F.3d 1578 (Fed. Cir. 1997)	5
Therma-Tru Corp. v. Peachtree Doors Inc., 44 F.3d 988 (Fed. Cir. 1994)	5, 16
Toshiba Corp. v. Juniper Networks, Inc., 2007 WL 2574744 (Fed. Cir. Sept. 6, 2007)	12
Vitronics Corp. v. Conceptronic Inc., 90 F.3d 1576 (Fed. Cir. 1996)	2, 12
WeddingChannel.Com, Inc. v. The Knot, Inc., 2005 WL 165286 (S.D.N.Y. Jan. 26, 2005)	11, 12

STATUTES

37 C.F.R., §1.5(b)	5
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PLAINTIFF'S OPENING CLAIM CONSTRUCTION BRIEF

Plaintiff, American Patent Development Corporation, LLC ("Plaintiff" or "APDC"), by counsel, submits the following Opening Claim Construction Brief:

INTRODUCTION

The inventions disclosed and claimed in U.S. Patent 5,400,402 (the "'402 Patent") relate to downloading a digitally encoded video program to a user's viewing equipment, typically a personal computer or similar viewing device, using a data network or other electronic transmission medium from a service provider facility, such as a website and its supporting back-office equipment.¹ The inventions involve controlling access to the downloaded digitally encoded video program at the personal computer or other similar viewing device.

ARGUMENT

A. The Law Governing Claim Construction.

Construction of patent claims, which define the scope of a patentee's rights under a patent, is a matter of law for the Court. See Markman v. Westview Instruments, Inc., 52 F.3d

¹ For the Court's convenience, a copy of the '402 Patent is attached as Exhibit A.

967, 970 (Fed. Cir. 1995) aff'd, 517 U.S. 370 (1996). Claim terms are to be given their ordinary and accustomed meaning as understood by one of ordinary skill in the art. See Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc., 222 F.3d 951, 955 (Fed. Cir. 2000). See also CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed. Cir. 2002) ("Generally speaking, [courts] indulge a 'heavy presumption' that a claim term carries its ordinary and customary meaning"). However, "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005).

Although the specification provides "context," the Federal Circuit repeatedly has held that an infringer may not "read" into a patent claim additional limitations that appear in examples set forth in the specification, but which are not expressly set forth in the claim. See Pfizer v. Ranbaxy Labs, Ltd. 457 F.3d 1284, 1290 (Fed. Cir. 2006); accord Wyeth Laboratories, Inc. v. Impax Laboratories, Inc., (D. Del.) CV 06-222-JJF, Memorandum and Order, Dec. 13, 2007 (attached hereto as Exhibit B); see also Comark Commc'n v. Harris Corp., 156 F.3d 1182, 1186 (Fed. Cir. 1998); Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1303 (Fed. Cir. 1997); Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc., 976 F.2d 1559, 1566 (Fed. Cir. 1992).

Infringers often attempt to limit the scope of a patent claim to only what is described in the specification as a preferred embodiment of the invention or in the file history as an illustrative one. Patent claims, however, are *not* limited to any preferred or illustrative embodiment. See Karlin Tech. Inc. v. Surgical Dynamics, Inc., 177 F.3d 968, 973 (Fed. Cir. 1999). Moreover, a claim is construed to encompass all of the preferred embodiments unless

there is strong evidence to the contrary. See Vitronics Corp. v. Conceptronic Inc., 90 F.3d 1576, 1583 (Fed. Cir. 1996); Affymetrix Inc. v. Illumina, Inc., CV 04-901 JJF, Memorandum and Order August 16, 2006 ("8/16/06 Order") (attached hereto as Exhibit C).

Finally, in cases of commonly used terms of art, the Court may refer to extrinsic sources such as dictionaries or technical treatises for purposes of claim construction. See Phillips, 415 F.3d at 1322 ("Dictionaries or comparable sources are often useful to assist in understanding the commonly understood meaning of words . . .").

B. Claims That APDC Contends Movielink Infringes.

APDC asserts that Movielink, LLC ("Movielink") infringes Claims 1 and 2 of the '402 Patent.

Claim 1 of the '402 Patent reads:

A method for providing a video product from a central station to a user site, comprising the steps of:

transmitting from said central station to said user site a digital data stream comprising said video product, and data establishing a limit for authorized viewing of said video product;

storing said video product at said user site;

decoding said data establishing a limit for authorized viewing of said video product;

storing a result of said decoding step;

blocking access to said video product stored at said user site if said limit for authorized viewing is exceeded.

Claim 2 of the '402 Patent reads:

A method for providing a video product from a central station to a user site, comprising the steps of:

transmitting from said central station to said user site a digital data stream comprising said video product, data establishing a time period during which viewing of said video product is authorized;

storing said video product at said user site;

decoding said data establishing a time period during which viewing of said video product is authorized;

storing a result of said decoding step;

comparing an output of said local clock signal generator with said result of said decoding step;

erasing said video product stored at said user site if the result of said comparing step is that the time period during which viewing of said video product is authorized has expired.

C. Claim Terms in Dispute.

Based upon Movielink's responses to APDC's discovery requests, in addition to the parties' "meet and confer" discussion on claim interpretation, APDC believes the Court should interpret the following claim terms: (1) "central station"; (2) "user site"; (3) "video product"; (4) "data establishing a limit"; (5) "transmitting from said central station to said user site a digital data stream comprising said video product, and data establishing a limit for authorized viewing of said video product"; (6) "decoding said data establishing a limit"; (7) "storing"; (8) "blocking access to said video product"; (9) "comparing an output of a local clock signal generator with said results of said decoding step"; and (10) "erasing said video product."

1. **"central station."**

APDC's Proposed Construction: One or more computers or other data processing devices operated together in order to deliver video on demand service to a user site.

Supporting Argument:

"[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Phillips, 415 F.3d at 1313. In addition, the meaning consistent with the patentee's explanation in the specification controls the interpretation of the claim term. See Serrano v. Tellular Corp., 111 F.3d 1578, 1582 (Fed. Cir. 1997) (where the particular usage by the patentee governs construction of new terms). See also 8/16/06 Order (Exhibit C).

In light of these principles, a "central station" under the '402 Patent can encompass any number of devices that are operating together in connection with a downloaded video product delivery system. Specifically, the '402 Patent states that the "host computer *in conjunction with other electronics* transmits the video program" See '402 Patent, col. 1, line 31 (emphasis added). The '402 Patent also states that "each program is preprogrammed in a memory device selectable by a host computer at a central data station" See '402 Patent, col. 1, line 27. The term "selectable" inherently discloses that the "host computer" is addressing commands to other data processing devices, and, that which is an inherent property of a disclosed structure is deemed part of the patent specification. See In re Reynolds, 443 F.2d 384, 389 (CCPA 1971); see also Therma-Tru Corp. v. Peachtree Doors Inc., 44 F.3d 988, 992 (Fed. Cir. 1994); Kennecott Corp. v. Kyocera Int'l, Inc., 835 F.2d 1419, 1422 (Fed. Cir. 1987).

APDC's construction of "central station" as one or more devices is further supported by the specification of U.S. Patent No. 4,506,387 (the "'387 Patent"), which the '402 Patent expressly incorporates by reference.² See '402 Patent, col. 1, line 21. Therefore, the '387 Patent is deemed to be part of the '402 Patent specification. See 37 C.F.R., §1.5(b) ("Essential material

² For the Court's convenience, a copy of the '387 Patent is attached as Exhibit D.

may be incorporated [into the specification] by reference . . . to a U.S. patent . . ."); see also Ex parte Schwarze, 151 USPQ (BNA) 426 (Bd. App. 1966).

The '387 Patent describes an embodiment of a "central data station" which includes a "host computer electrically connected to [an] electronic switching system," which in turn "is electrically connected to a library of memory modules." See '387 Patent, col. 3, line 57. In addition, the disclosure states that the "host computer selects the memory device . . . [a]nd causes the [video] program stored therein to be transmitted by a fiber optic line to a data receiving station at the user's location." See '387 Patent, col. 1, line 58.

Moreover, the '387 Patent discloses that "the host computer transmits other instructions and information to the viewer" See '387 Patent, col. 7, line 64. In other words, in the '387 Patent, the "data receiving station," i.e. the "user site," receives data transmitted from *both* the "host computer" and the "memory modules." The patent drawings and references make clear that the host computer and memory devices are distinct transmission sources. See '387 Patent, Figure 1 (Items 128, 56, 58, 60, 62).

The specification of the '402 Patent does not require that the equipment comprising the "central station" reside in close physical proximity. At column 2, line 59, the specification of the '402 Patent recites that "[t]he high speed data link may, for example, be a fiber optic, publicly switched telephone link, a satellite link or a cable television link." The nature of these embodiments, well known in the art, describe a "central station" whose elements may be geographically distributed, even while electronically connected.

Thus, "central station," as used in Claims 1 and 2 of the '402 Patent, should be construed to include the collection of equipment operated together in order to deliver a video product to the end-user and is not limited to a single computer server or single geographic location.

2. **"user site."**

APDC's Proposed Construction: The combination of equipment located remotely from the central station used by the viewer to receive from the central station and access a video product.

Supporting Argument:

The term "user site" is described in the '402 Patent as follows: "a customer site, indicated within the dashed block 10 [of Figure 1] is connected by a high speed data link to a remote central station." See '402 Patent, col. 2, line 57. Figure 1 shows an embodiment comprised of a microprocessor, memory interface and control, a video memory and a television for displaying the image. All of these equipment types are shown in Figure 1 to be within the box, indicated as the item 10 referred to at column 2, line 57 of the '402 Patent.

3. **"video product."**

APDC's Proposed Construction: A set of downloaded and stored video data that contains a video program.

Supporting Argument:

The specification of the '402 Patent describes the video downloading process as follows: "The link serves to download, at high speed, a video program to a specific customer address from which an order has been placed." See '402 Patent, col. 2, line 68. The specification goes on to describe one embodiment where the "video data will be stored in digital form at the central station and at the customer site." See '402 Patent, col. 2, line 62. The description further explains that at the customer site, referring to the microprocessor, "it retrieves the stored digital video data" See '402 Patent, col. 3, line 20. Accordingly, the '402 Patent specification

describes a video product as a set of downloaded and stored video data that contains a video program.

4. **"data establishing a limit for authorized viewing of said video product."**

APDC's Proposed Construction: One or more data values that set an expiration threshold for either a limited viewing time period or a limited number of views of a video product or a combination thereof.

Supporting Argument:

The claim term "data establishing a limit" is not a commonly used technical term. Therefore, the Court should review the specification of the '402 Patent to understand the inventor's intended meaning. "[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Phillips, 415 F.3d at 1313.

The specification of the '402 Patent states that in one embodiment, "the time limit or the prescribed number of times, can be encoded at the central station in instructions that accompany the down-loaded data." See '402 Patent, col. 3, line 35.

In another embodiment, the limits are "fixed by data specified by instructions included with the downloaded data." See '402 Patent, col. 3, line 48. In yet another embodiment, it is described as "both a time limit and a numerical access limit coded in the instructions." See '402 Patent, col. 4, line 2. The numerical access is "the count of the number of times . . . [the video product] has been accessed" See '402 Patent, col. 4, line 9. The specification further contemplates that the system operates "in a time limit mode or access limit mode or a combination of both modes." See '402 Patent, col. 3, line 53.

Therefore, "data establishing a limit for authorized viewing of said video product" is properly construed to mean one or more data values that set an expiration threshold for either a limited viewing time period or a limited number of views of a video product or a combination thereof.

5. **"transmitting from said central station to said user site a digital data stream comprising said video product, and data establishing a limit for authorized viewing of said video product."**

APDC's Proposed Construction: Transmitting data from one or more computers or data processing devices operated together in order to provide video on demand service to the remotely located combination of equipment used by the viewer to receive and access a video product, such data containing: (i) video data that when received and stored at the user site is a video product, and (ii) one or more data values that set an expiration threshold for either a limited viewing time period or a limited number of views of the video product or a combination thereof.

Supporting Argument:

The claim element "transmitting from said central station to said user site a digital data stream comprising said video product, and data establishing a limit for authorized viewing of said video product" must be construed in a manner that is consistent with the '402 Patent specification. As noted above, the "central station" is "one or more computers or other data processing devices operated together in order to provide video on demand service." Therefore, "transmitting from said central station" includes transmissions from one or more computers or other data processing devices that function together as the central station.

In addition, "data stream" is commonly used in the computer industry, and the Court may refer to extrinsic sources such as dictionaries or technical treatises for purposes of claim construction with regard to commonly used terms. See Phillips, 415 F.3d at 1322.

The application that matured into the '402 Patent was filed on June 7, 1993. A technical dictionary defines "data stream" as "a sequence of digitally encoded signals used to represent information in transmission." Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996 (attached hereto as Exhibit E). Similarly, the district court in Broadcast Innovation, LLC v. Echostar Commc'n Corp., 240 F. Supp.2d 1127 (D. Colo. 2003), decided that with regard to a digital video delivery patent with a priority date of July 18, 1995, the "ordinary and customary meaning is that a 'data stream' is 'a sequence of data elements.'" Broadcast Innovation, LLC, 240 F. Supp.2d at 1140 (citing The Dictionary of Computing, 127 (4th ed. 1996)).

Moreover, the words "digital data stream" are part of the phrase "transmitting from said central station to said user site a digital data stream comprising a video product, and data establishing a limit" Therefore, the "data stream" in Claims 1 and 2 refers to a "sequence of data elements" transmitted from "one or more computers" that function together as the "central station."

The '387 Patent provides additional support for the conclusion that the "transmitting" step may encompass transmissions from multiple sources within the "central station." As discussed above, the '402 Patent incorporates the '387 Patent by reference. The '387 Patent states that the "host computer selects the memory device . . . [a]nd causes the [video] program stored therein to be transmitted by a fiber optic line to a data receiving station at the user's location." See '387 Patent, col. 1, line 58. The '387 Patent further states that "the host computer transmits other instructions and information to the viewer" See '387 Patent, col. 7, line 64. In other words, the '387 Patent expressly describes how the "data receiving station," i.e. the "user site," receives data transmitted separately from both the "host computer" and the "memory modules." The '387

Patent drawings and references make clear that the host computer and memory devices are distinct transmission sources. See '387 Patent, Figure 1 (Items 128, 56, 58, 60 and 62).

Therefore, the "digital data stream" referred to in the '402 Patent includes data transmitted from one or more computers at the "central station" to the "user site." "Digital data stream" does *not* mean only data which originates from a single computing device.

In addition, the punctuation and associated claim language make clear that Claims 1 and 2 may encompass separate transmissions of the "video product" and "data establishing a limit" as well as a single transmission of both. The comma in the claim element "transmitting from said central station to said user site a digital data stream comprising said video product, and data establishing a limit . . ." separates the element "a digital data stream comprising said video product" from the element ", and data establishing a limit." The comma requires the transmission step to be construed so that the transmission of the "video product" may be a distinct action from the transmission of the "data establishing a limit." The function of the comma in this regard cannot be ignored because federal courts do not ignore punctuation in patent claims.

In WeddingChannel.Com, Inc. v. The Knot, Inc., 2005 WL 165286 (S.D.N.Y. Jan. 26, 2005), for example, the district court was faced with the question of whether a comma in a patent claim separated items. The district court held that a patent claim construction that ignored a comma in the patent claim element at issue was incorrect. The court reasoned as follows:

It is axiomatic that "[a] claim must be read in accordance with the precepts of English grammar." WeddingChannel's proposed construction of element [B] conforms to rules of standard English grammar. The Knot's proposed construction does not: The Knot simply ignores the comma following the word "module" in element [B]. On this basis, WeddingChannel's proposed construction is adopted.

WeddingChannel.Com, Inc., 2005 WL 165286 at * 8 (citations omitted).

This Court has likewise followed this principle. In Commissariat a l'Energie Atomique v. Samsung Electronics Co., 524 F. Supp.2d 546 (D. Del. 2007), this Court stated that "Samsung is correct that, grammatically, the separation of 'means for polarizing' and 'thickness of the [liquid crystal] layer' with commas and the inclusion of each in separate 'wherein' clauses indicates that those are separate phrases requiring separate constructions."

In addition, the Federal Circuit has recognized the critical importance of punctuation – including commas – in claim construction. In Toshiba Corp. v. Juniper Networks, Inc., 2007 WL 2574744, at * 4 (Fed. Cir. Sept. 6, 2007), the Federal Circuit upheld a district court's claim construction, noting that separating two elements of the claim would be improper because "[i]f the patentee desired [such a separation], *it would have used commas to set off the phrase.*" (emphasis added.) In this case, the '402 Patent *does* use a comma to set off the phrase "a digital data stream comprising said video product" from the phrase "and data establishing a limit." In addition, the separate transmissions indicated by the comma – being expressly described as an embodiment in the specification – cannot be excluded from the claims without "highly persuasive evidentiary support." See 8/16/06 Order, citing Vitronics Corp. v. Conceptronics Inc., 90 F.3d 1576, 1583 (Fed. Cir. 1996).

Therefore, the '402 Patent claim language, the specification, and the punctuation make clear that the transmitting step is properly construed as: "Transmitting data from one or more computers or data processing devices operated in order to deliver a video on demand service to the remotely located combination of computer equipment and viewing devices used by the viewer to receive and access a video product, such data containing: (i) video data that when received and stored at the user site is a video product, and (ii) one or more data values that set an

expiration threshold for either a limited viewing time period or a limited number of views of the video product or a combination thereof."

6. **"decoding said data establishing a limit."**

APDC's Proposed Construction: The interpretation by a computer program or hardware logic operating at the user site of the data values that set an expiration threshold.

Supporting Argument:

"Decoding" is a commonly used term in the computer industry. Again, the Court may refer to extrinsic sources such as dictionaries or technical treatises for purposes of claim construction with regard to commonly used terms. See Phillips, 415 F.3d at 1322.

Webster's dictionary defines "decode" to mean "to convert (as a coded message) into intelligible form" or "to recognize and interpret (an electronic signal)." See <http://www.webster.com/dictionary/decode> (attached hereto as Exhibit F). Similarly, a technical dictionary defines "decode" as "to convert data by reversing the effect of previous encoding" or "to interpret a code." See Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996 (attached hereto as Exhibit G).

The specification of the '402 Patent states that "the time limit or the prescribed number of times, can be encoded at the central station in instructions that accompany the down-loaded data." See '402 Patent, col. 3, line 35. The specification also states that "the limit data is decoded from the downloaded data stream." See '402 Patent, col. 4, line 31. The '402 Patent specification further states that in one embodiment, "decoded limiting data is stored in a register . . . the output of the register is coupled to an input of a comparator, whose other inputs include the output of a time of day clock generator" See '402 Patent, col. 3, line 68. Finally, the '402 Patent specification also states that "the function of decoding may be performed as a hardware

operation as shown here, or as a programmed operation of the microprocessor 30." See '402 Patent, col. 3, line 63.

For the foregoing reasons, "decoding said data establishing a limit" means "the interpretation by a computer program or hardware logic operating at the user site of the data values that set an expiration threshold."

7. **"storing a result of said decoding step."**

APDC's Proposed Construction: The input of one or more data items resulting from the interpretation of the data values that set an expiration threshold into a memory device from which such data items may be retrieved.

Supporting Argument:

"Storing" is also a commonly used term in the computer and communications industry. Thus, "the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." Phillips, 415 F.3d at 1314.

"Storage" is defined as "[t]he retention of data in any form, usually for the purpose of orderly retrieval and documentation." See Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996 (attached hereto as Exhibit H). Webster's Dictionary defines "storing" as "to place or leave in a location (as a warehouse, library, or computer memory) for preservation or later use or disposal." See <http://www.merriam-webster.com/dictionary/storing> (attached hereto as Exhibit I). The '402 Patent specification is consistent with this usage: it states that in one embodiment, "decoded limiting data is stored in a

register . . . the output of the register is coupled to an input of a comparator, whose other inputs include the output of a time of day clock generator . . ." See '402 Patent, col. 3, line 68.

Accordingly, "storing a result of said decoding step" should be construed as "the input of one or more data items resulting from the interpretation of the data values that set an expiration threshold into a memory device from which such data items may be retrieved."

8. **"blocking access."**

APDC's Proposed Construction: Denying access to the video product by means of operating a computer program or hardware logic to prevent viewing of the video product, the removal of the video product from the user site, or designating as deleted the data storage locations at the user site where such video product is stored.

Supporting Argument:

"Access" is another commonly used word, and has a technical definition: "To obtain the use of a resource." Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996 (attached hereto as Exhibit J). In addition, the specification of the '402 Patent states that the user's computer "erases or otherwise (e.g. scrambling) limits access to the stored data . . ." See '402 Patent, col. 3, line 22. Moreover, it describes the process "to erase the video data stored in memory or to otherwise block access to the data by the television set." See '402 Patent, col. 4, line 46.

The claim term "blocking access" includes using encryption, referred to in the '402 Patent specification as "scrambling" techniques, to preserve the data while prohibiting access to it through the operation of program or hardware logic. See '402 Patent, col. 3, line 22. In this case, "scrambling" inherently discloses that some computer program or hardware logic is preventing access to the video product. See In re Reynolds, 443 F.2d at 389 (the specification is deemed to

disclose that which is inherently part of what is expressly disclosed); Therma-Tru Corp., 44 F.3d at 993. Therefore, "blocking access" is construed to mean "denying access to the video product by means of operating a computer program or hardware logic to prevent viewing of the video product, the removal of the video product from the user site, or designating as deleted the data storage locations at the user site where such video product is stored."

9. **"comparing an output of said local clock signal generator with said result of said decoding step."**

APDC's Proposed Construction: Using an operating computer program or hardware logic to determine whether the local time indicated by the equipment at the user site is prior to, equal to, or after the expiration time indicated by the result of the interpretation of the data values that set an expiration threshold.

Supporting Argument:

The '402 Patent specification states that in one embodiment, "decoded limiting data is stored in a register . . . the output of the register is coupled to an input of a comparator, whose other inputs include the output of a time of day clock generator . . ." See '402 Patent, col. 3, line 68. In this case, the Court can turn to extrinsic evidence to construe the commonly used term "comparator." A relevant extrinsic definition of a "comparator" is: "a device that compares two items of data and indicates the result of that comparison." Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996 (attached hereto as Exhibit K). In addition, referring to Figure 3 of the '402 Patent, the comparison step is shown in a flow chart: "comparison decision block 54 to determine if the limit has been reached." See '402 Patent, col. 4, line 35.

Thus, "comparing an output of said local clock signal generator with said result of said decoding step" should be construed as "using an operating computer program or hardware logic

to determine whether the local time indicated by the equipment at the user site is prior to, equal to, or after the expiration time indicated by the result of the interpretation of the data values that set an expiration threshold."

10. **"erasing said video product."**

APDC's Proposed Construction: To remove or obliterate the downloaded and stored video data from the storage locations where the video data is stored, such as to clear, overwrite or designate as deleted such storage locations.

Supporting Argument:

Again, in this case, the Court can turn to extrinsic evidence to construe the commonly used term "erase."

"Erase" is defined as "[t]o obliterate information from a storage medium, such as to clear or to overwrite." Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996 (attached hereto as Exhibit L). Similarly, Webster's Dictionary defines "erase" as "to remove (recorded matter) from a magnetic medium; also: to remove recorded matter from <erase a videotape> d: to delete from a computer storage device <erase a file> . . ."
<http://www.merriam-webster.com/dictionary/erase> (attached as Exhibit M).

Therefore, "erasing said video product" is to remove or obliterate the downloaded and stored video data from the storage locations where the video data is stored, such as to clear, overwrite or designate as deleted such storage locations.

CONCLUSION

Claims 1 and 2 of the '402 Patent are clear based on the language of the claims and the specification. Therefore, there is no need to analyze the arguments made during prosecution. See Phillips, 415 F.3d at 1317 ("because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.").

For the foregoing reasons, plaintiff American Patent Development Corporation respectfully requests the Court to construe Claims 1 and 2 of U.S. Patent No. 5,400,402 as set forth herein.

AMERICAN PATENT DEVELOPMENT
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By Counsel

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CERTIFICATE OF SERVICE

I hereby certify that on August 28, 2008, I electronically filed the foregoing *Plaintiff's Opening Claims Construction Brief* with the Clerk of Court using CM/ECF which will send notification of such filing to the following counsel of record:

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AMERICAN PATENT DEVELOPMENT
CORPORATION, LLC,

Plaintiff,

v.

MOVIELINK, LLC,

Defendant.

C.A. No. 07-605-JJF

EXHIBITS TO PLAINTIFF'S OPENING CLAIM CONSTRUCTION BRIEF

Exh. No. Description

- A. '402 Patent
- B. Wyeth Laboratories, Inc. v. Impax Laboratories, Inc., (D. Del.) CV 06-222-JJF, Memorandum and Order, Dec. 13, 2007
- C. Affymetrix Inc. v. Illumina, Inc., CV 04-901 JJF, Memorandum and Order August 16, 2006 ("8/16/06 Order")
- D. '387 Patent
- E. "Data Stream" Definition, Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996
- F. "Decoding" Definition, Merriam-Webster.com
- G. "Decoding" Definition, Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996
- H. "Storage" Definition, Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996
- I. "Storage" Definition, Merriam-Webster.com
- J. "Access" Definition, Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996

- K.** “Comparator” Definition, Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996
- L.** “Erase” Definition, Federal Standard 1037C Glossary of Telecommunications Terms, August 7, 1996
- M.** “Erase” Definition, Merriam-Webster.com

United States Patent [19]

Garfinkle

US005400402A

[11] Patent Number: **5,400,402**[45] Date of Patent: **Mar. 21, 1995**

[54] **SYSTEM FOR LIMITING USE OF
DOWN-LOADED VIDEO-ON-DEMAND
DATA**

[76] Inventor: **Norton Garfinkle, 2800 S. Ocean
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[21] Appl. No.: **72,927**

[22] Filed: **Jan. 7, 1993**

[51] Int. Cl.⁶ **H04N 7/167**

[52] U.S. Cl. **380/20; 380/10;
380/5; 348/7**

[58] Field of Search **380/10, 20, 5; 348/7,
348/10, 6**

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,358,672 11/1982 Hyatt et al. 235/380
4,506,387 3/1985 Walter 455/612
4,593,337 6/1986 Leone et al. 360/137

4,890,320 12/1989 Monslow et al. 380/10
4,945,563 7/1990 Horton et al. 380/5
4,947,429 8/1990 Bestler et al. 380/20
5,046,090 9/1991 Walker et al. 380/5
5,051,822 9/1991 Rhoades 358/86
5,060,079 10/1991 Rufus-Isaacs 358/349
5,070,400 12/1991 Liberman 358/84
5,081,680 1/1992 Bennett 380/50
5,291,554 3/1994 Morales 380/5

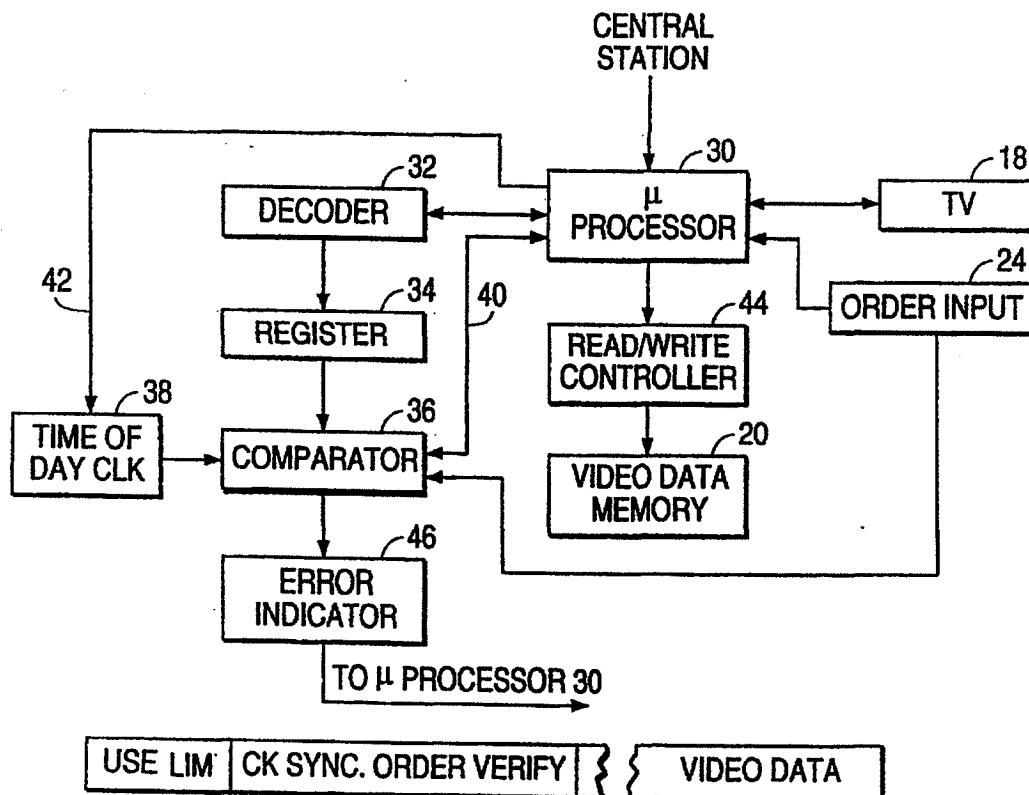
Primary Examiner—David C. Cain

Attorney, Agent, or Firm—Lane, Aitken & McCann

[57] ABSTRACT

A digital data system that includes a control system at a customer site that blocks access to a down-loaded stored program after it has been viewed a predetermined number of times (e.g., once), or after a predetermined interval, or any combination thereof.

3 Claims, 2 Drawing Sheets



APD 0196

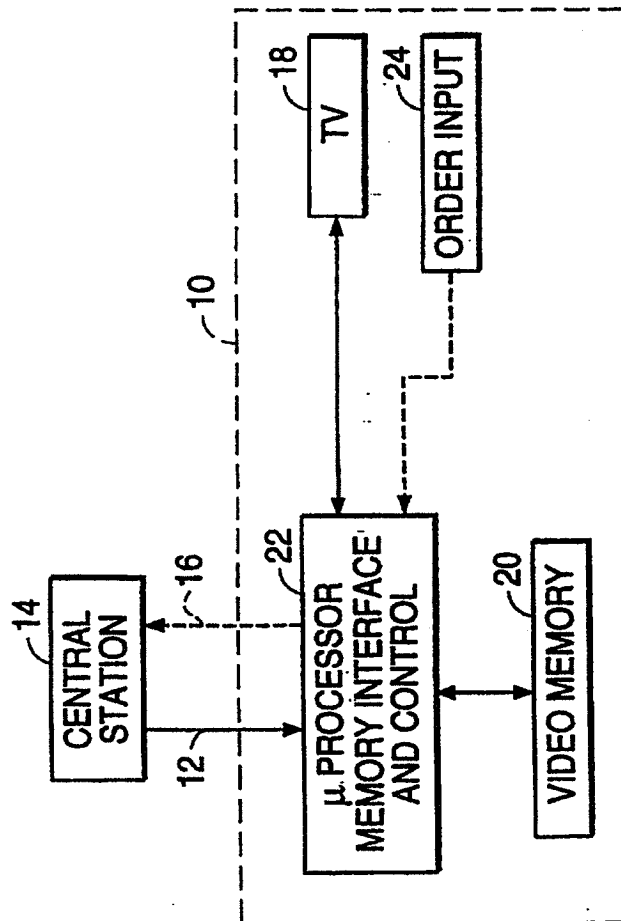
U.S. Patent

Mar. 21, 1995

Sheet 1 of 2

5,400,402

FIG. 1



U.S. Patent

Mar. 21, 1995

Sheet 2 of 2

5,400,402

FIG. 2

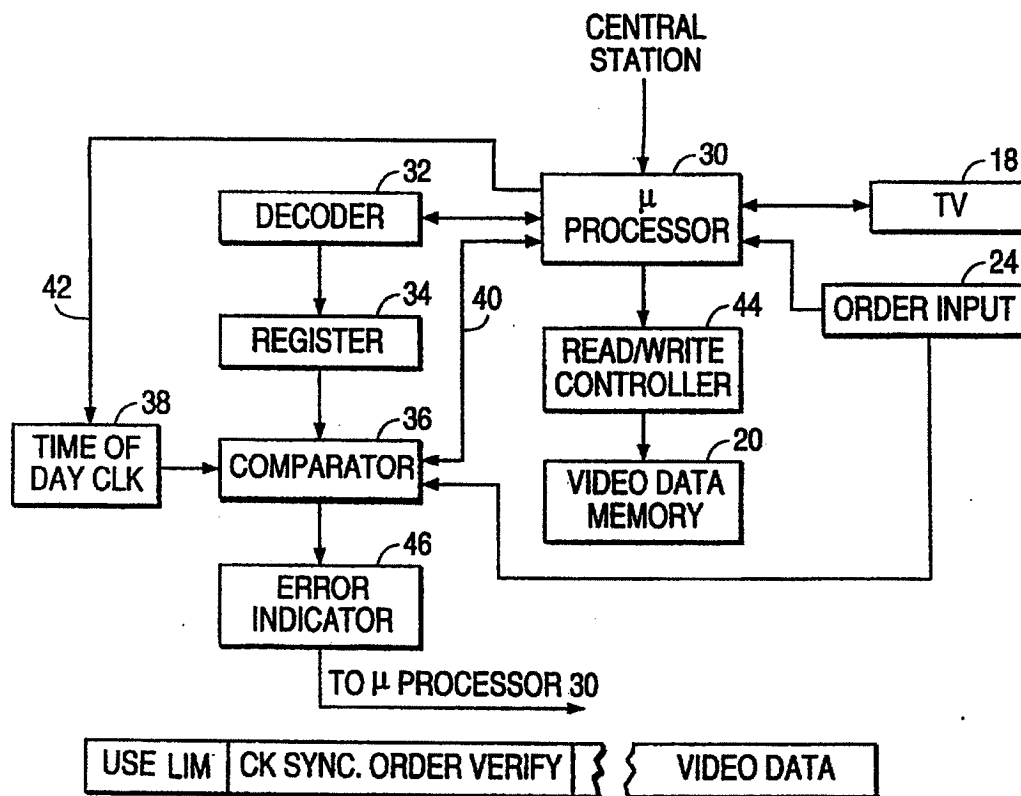
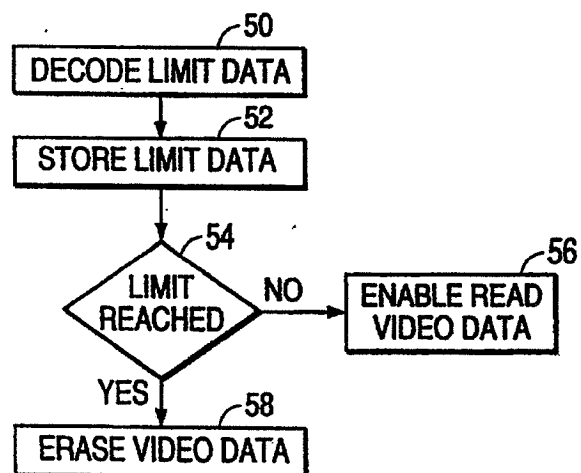


FIG. 3



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SYSTEM FOR LIMITING USE OF DOWN-LOADED VIDEO-ON-DEMAND DATA

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to video-on-demand systems, and more particularly to an improved system for controlling the use of video programs that have been down-loaded from a central station and stored at a customer's site.

2. Description of the Prior Art

There have been a number of proposals for so-called video-on-demand systems. In certain of these proposals, a customer who wants to view a particular video program (e.g., a movie, a video game, or printed text material) will contact a central station and request a program, which will be down-loaded, at high speed, and stored at the customer's site, for later viewing.

U.S. Pat. No. 4,506,387, which is incorporated herein by reference, discloses a programming-on-demand cable system which allows any one of a plurality of individual users to request anyone of a plurality of video programs they wish to view from a library of programs, and permits the requested program to be available for viewing on a conventional television set at the user's location following a request initiated by the user. Each program is preprogrammed in a memory device selectable by a host computer at a central data station in response to an address signal transmitted from the user. The host computer in conjunction with other electronics transmits the video program at a high non-real-time rate over a fiber optic line network to a data receiving station at the user's location. The data receiving station then converts the received optical data back to electrical data and stores it for subsequent real-time transmission to the user's television set. The system permits the user to view any one of a number of programs transmitted on a non-real-time basis, and also allows the user to store the transmitted program at his data receiving station for an indefinite period of time for viewing at a later date. In this system, however, there is no provision to limit the use a customer may make of a down-loaded program.

U.S. Pat. No. 5,046,090, discloses a video system in which programs are down-loaded and stored. Video programs are rendered unintelligible, e.g. scrambled, by any analog or digital method, and are made intelligible, e.g., descrambled, using random digital codes located in fields. The random digital keys are themselves encrypted, and decrypted by a one or more key obtained from a database located at a remote central facility, along with user-specific information at the time of viewing. Obviously, this system is relatively complex and requires a data link to the remote central facility in order to obtain decryption data.

Similarly, U.S. Pat. No. 5,051,822, discloses a digital, interactive communication system designed to provide a plurality of remote subscribers with any one of a plurality of stored video games or like software packages through the use of a home computing assembly maintained within the subscriber's home and structured to display video as well as generating audio on a standard television receiver and further incorporating the ability to utilize contemporary video gaming control devices for subscriber program interaction. A bi-directional communication link is established over the telephone lines between the home computing assembly and the

central remote game storage center wherein the software programs are transmitted as a modulated carrier to the subscriber. Program selection is controlled by a remote game storage center executive software program. Automatic billing is performed by computing equipment maintained in the remote game storage center and transmitted to a headquarters.

Thus, it will be appreciated that the prior art proposals for controlling down-loaded video data are complex and not altogether suitable for widespread commercial use.

SUMMARY OF THE INVENTION

An object of this invention is the provision of a relatively simple, inexpensive system to limit the use of a program stored at a customer site commensurate with a fee or other arrangement with the customer.

Briefly, the nature of this invention is the provision of a control system at the customer site that operates independently of the central station once the program has been down-loaded. In one embodiment, the control system erases or scrambles the stored program after it has been viewed a predetermined number of times (e.g., once), and in another embodiment the program is erased or scrambled after a predetermined interval (e.g., 24 hours). In one embodiment the stored program is erased after a predetermined interval or after a predetermined number of accesses or any combination thereof based on fixed criteria stored at the customer site. In another embodiment, the down-loaded data includes instructions that specify and controls the number of times the stored data may be accessed, or the period during which the stored material may be accessed, or any combination thereof. In each embodiment, a control system at the customer's site limits further access to the stored program after the limit has been reached.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other objects, aspects and advantages will be better understood from the following detailed description of a preferred embodiment of the invention with reference to the drawings, in which:

FIG. 1 is a block diagram of a video-on-demand system.

FIG. 2 is a block diagram of one embodiment of a system to limit access to stored programs in accordance with the invention.

FIG. 3 is a flow diagram of the process steps of the embodiment of FIG. 2.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT OF THE INVENTION

Referring now to FIG. 1 of the drawings, it illustrates a typical video-on-demand system with which the use control system of this invention is applicable. A customer site, indicated within the dashed block 10, is connected by a high-speed data link 12 to a remote central station 14. The high-speed data link may, for example, be a fiber optic, publically switched, telephone link, a satellite wireless link or a cable television link. Typically, the video data will be stored in digital form at the central station and at the customer site. Depending on the nature of link 12, data may be transmitted digitally on link 12 or in an analogue format using digital to analogue and analogue to digital converters. The link 12 serves to down-load, at high speed, a video program to a specific customer address from which an

5,400,402

3

order has been placed from a remote customer site 10. A customer order, depending on the link 12, can be placed over link 12 from the remote site 10 via an order entry unit 24 through which an order may be placed using a keyed-in code. The advantage of such an order entry unit 24 is that it presents a standard order format to the central station 14. A separate link, here indicated by the dashed line 16, could also be used to place an order; the link 16 may be, for example, a standard, public voice telephone connection, in which case the order unit 24 would be a standard audio telephone set.

The remote customer site components include a television set 18 and a digital video memory 20 such as a hard disk memory, a FLASH memory, a tape memory, optical disk memory or other suitable memory for storing the down-load video data. A microprocessor-based memory interface and memory control unit 22 provides an interface between the link 12 and the memory 20. It loads the data into assigned memory address locations. It retrieves the stored digital video data, and converts it to an analogue signal for display on the television 18. Control unit 22 also erases or otherwise (e.g., scrambles) limits access to the stored data after a use limit specified by the central station or fixed at the customer site have been met or exceeded, as will be described in greater detail in connection with FIGS. 2 and 3.

Referring now to FIG. 2, in one embodiment of the invention the system limits the user to a prescribed time period (e.g., 24 hours) within which the user can view the stored program. During this period the user can access the stored program as many times as desired. In another embodiment of the invention, the system limits the user to a prescribed number of times that he is allowed to view the stored program. The time limit, or the prescribed number of times, can be encoded at the central station in instructions that accompany the down-loaded data. In this case, the period or the number of views may be specified when the customer orders the program. In one embodiment the period or number of views is fixed by the central station; in another embodiment the period or number of views may be specified by the customer when he orders the program.

It will be appreciated that, if desired, the limits may be combined; for example, the program may be viewed twice in a 12-hour period. Alternatively, the stored program can be erased after a predetermined interval (e.g., 24 hours) or fixed predetermined number of accesses (e.g., one) which is fixed by data permanently stored at the customer site or specified by instructions included with the downloaded data.

The embodiment of the invention shown in FIG. 2 is capable of operating in a time limit mode or access limit mode or a combination of both modes. If only a single limiting mode of operation is needed, the un-needed functionality described herein can be omitted from the system. As shown in FIG. 2, a down-loaded high-speed data stream from the central station is coupled to a suitable microprocessor 30. An output from the microprocessor 30 is coupled to decoder 32 that, in this embodiment, decodes the instructions specifying the use limitations in the down-loaded data. As will be appreciated by those skilled in the art, the function of decoding may be performed as a hardware operation as shown here, or as a programmed operation of the microprocessor 30. It will also be appreciated that limiting data may be permanently stored at the customer site, in which the down-loaded data need not include such user limitation data. The decoded limiting data is stored in a register

4

34; in this embodiment of the invention it is assumed that both a time limit and a numerical access limit are coded in the instructions and stored in the register 34. However, it is contemplated that, in most applications of the invention, a time limit alone will be used. The output of the register 34 is coupled to an input of a comparator 36, whose other inputs include the output of a time-of-day clock generator 38, and count of the number of times video data at a certain address location has been accessed from microprocessor 30 over line 40. In a particular embodiment of the invention, the down-loaded information from the central station includes time-of-day synchronizing data, which is used (as indicated by the connection 42) to ensure synchronization between the local time-of-day clock and the central station clock. Further, with a coded order input unit 24, the order data may be also inputted to the comparator 36 and compared to order data also encoded in the down-loaded data from the central station. If there is an error between the order data inputted from order unit 24 and the down-loaded order data, an error detector 46 can provide an input to microprocessor 30 to display an error message on television screen 18 and, if desired, block the storage of the video data.

Access to the video data storage memory 20 from the television set 18 is via the microprocessor 30 and a memory read/write control unit 44. Commands from the microprocessor 30 cause the controller 44 to store, retrieve and erase video data in memory 20.

Referring now to FIG. 3 in addition to FIG. 2, in operation, the limit data is decoded from the down-loaded data stream, as indicated at block 50. This limit data may comprise a time limit or limit the number of accesses to the data, or both. The limit data is stored at block 52 in register 34 and a comparison is made at decision block 54 to determine if the limit has been reached. In the case of a time limit, this comparison can be made with the time-of-day clock 38 and with a limit on the number of accesses, the comparison can be made with access data from microprocessor 30. If the result of the comparison step at block 54 is negative, the microprocessor 30 processes access requests from the television set 18 to the video data stored in memory 20 as indicated at block 56. If the result of the comparison step at block 54 is affirmative, the microprocessor 30 issues a command to controller 44 to erase the video data stored in memory 20 or to otherwise block access to the data by the television set 18.

While the invention has been described in terms of a single preferred embodiment, those skilled in the art will recognize that the invention can be practiced with modification within the spirit and scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is as follows:

1. A method for providing a video product from a central station to a user site, comprising the steps of:
 - transmitting from said central station to said user site a digital data stream comprising said video product, and data establishing a limit for authorized viewing of said video product;
 - storing said video product at said user site;
 - decoding said data establishing a limit for authorized viewing of said video product;
 - storing a result of said decoding step;
 - blocking access to said video product stored at said user site if said limit for authorized viewing is exceeded.

5,400,402

5

2. A method for providing a video product from a central station to a user site, comprising the steps of:
 transmitting from said central station to said user site
 a digital data stream comprising said video product,
 data establishing a time period during which
 viewing of said video product is authorized;
 storing said video product at said user site;
 decoding said data establishing a time period during
 which viewing of said video product is authorized;
 storing a result of said decoding step;
 comparing an output of a local clock signal generator
 with said result of said decoding step; p1 erasing
 said video product stored at said user site if the
 result of said comparing step is that the time period
 during which viewing of said video product is
 authorized has expired.

6

3. A method for providing a video product from a central station to a user site, comprising the steps of:
 transmitting from said central station to said user site
 a digital data stream comprising said video product,
 data establishing a time period during which
 viewing of said video product is authorized, and
 time of day clock synchronizing data;
 storing said video product at said user site;
 decoding said data establishing a time period during
 which viewing of said video product is authorized;
 storing a result of said decoding step;
 comparing an output of said local clock time of day
 signal generator with said result of said decoding
 step;
 erasing said video product stored at said user site if
 the result of said comparing step is that the time
 period during which viewing of said video product
 is authorized has expired.

* * * * *

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

WYETH, :
 :
Plaintiff, :
 :
v. : Civil Action No. 06-222-JJF
 :
IMPAX LABORATORIES, INC., :
 :
Defendant. :

O R D E R

At Wilmington, this 13 day of December 2007, for the
reasons discussed in the Memorandum Opinion issued this date;

IT IS HEREBY ORDERED that the following terms and/or phrases
in U.S. Patent Nos. 6,274,171 B1, 6,419,958 B2 and 6,403,120 B2
are assigned the following meanings:

1. The meaning of the phrase "**extended release
formulation**" is "a formulation, other than a hydrogel tablet,
which releases the active ingredient at a slower rate than the
immediate release formulation of the active ingredient such that
the dosing frequency is once-a-day rather than the plural daily
dosing for the immediate release formulation."

2. The meaning of the phrase "**diminished incidences of
nausea and emesis**" is "the degree and/or frequency of nausea and
emesis from the extended release formulation administered once-a-
day is less than what would be experienced by patients receiving
the same total daily dose of an immediate release formulation



3. The meaning of the phrase "a method for eliminating the troughs and peaks of drug concentration in a patient's blood plasma" is:

A method in which the extended release formulation is administered once in a 24-hour period, resulting in a venlafaxine blood plasma concentration that rises to a maximum value, followed by a generally protracted decrease over the remaining period while maintaining during that 24-hour period levels of venlafaxine in blood plasma that are sufficient to provide, during the course of treatment, relief from the condition being treated, thereby eliminating the multiple sharp peaks and troughs resulting from multiple daily dosing of the same total daily dose of the immediate release formulation as reflected in a graph of venlafaxine blood plasma concentration versus time.


UNITED STATES DISTRICT JUDGE

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

WYETH, :
 :
Plaintiff, :
 :
v. : Civil Action No. 06-222-JJF
 :
IMPAX LABORATORIES, INC., :
 :
Defendant. :

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MEMORANDUM OPINION

December 13, 2007
Wilmington, Delaware.


Farnan, District Judge

This action was brought by Plaintiff Wyeth against Defendant Impax Laboratories, Inc. ("Impax") alleging infringement of U.S. Patent Nos. 6,274,171 B1 ("the '171 patent"), 6,419,958 B2 ("the '958 patent") and 6,403,120 B2 ("the '120 patent") under the Hatch-Waxman Act in connection with Impax's Abbreviated New Drug Application ("ANDA") for a generic version of Wyeth's Effexor® XR. The issue currently before the Court is the claim construction of three terms and/or phrases from the patents-in-suit. The parties have briefed their respective positions on claim construction, and the Court has conducted a Markman hearing. This Memorandum Opinion represents the Court's construction of the disputed claim terms and/or phrases.

I. BACKGROUND

The three patents-in-suit share the same specification and relate to a product marketed by Wyeth under the registered name Effexor® XR. Generally, the asserted claims of the patents-in-suit pertain to methods for treating patients with depression or other disorders responsive to venlafaxine by administering an extended release formulation of venlafaxine hydrochloride that provides a therapeutic concentration of the drug over a 24 hour period and results in less nausea and vomiting than with an immediate release formulation of venlafaxine hydrochloride. The asserted claims are all method claims which require either peak

blood plasma levels of venlafaxine within a specified time period or peak blood plasma levels of venlafaxine within specified concentrations. Some claims also provide that the claimed method result in "diminished incidences of nausea and emesis."

Wyeth has asserted against Impax the following claims from the patents-in-suit: claims 20-25 of the '171 patent, claims 1-6 of the '958 patent and claims 1, 2, 13 and 14 of the '120 patent. From these claims, the parties have identified three disputed claim terms and/or phrases: (1) "extended release formulation," (2) "diminished incidences of nausea and emesis," and (3) "a method for eliminating the troughs and peaks of drug concentration in a patient's blood plasma." The following claims from the '171 patent are illustrative of how these terms and/or phrases are used in all of the asserted claims:

20. A method for providing a therapeutic blood plasma concentration of venlafaxine over a twenty four hour period with diminished incidences of nausea and emesis which comprises administering orally to a patient in need thereof, an encapsulated, extended release formulation that provides a peak blood plasma level of venlafaxine in from about four to about eight hours, said formulation containing venlafaxine hydrochloride as the active ingredient.
21. A method for eliminating the troughs and peaks of drug concentration in a patients [sic] blood plasma attending the therapeutic metabolism of plural daily doses of venlafaxine hydrochloride which comprises administering orally to a patient in need thereof, an encapsulated extended release formula that provides a peak blood plasma level of venlafaxine in from about four to about eight hours, said formulation containing venlafaxine hydrochloride as the active ingredient.

The patents-in-suit have also been the subject of litigation between Wyeth and Teva Pharmaceuticals in the United States District Court for the District of New Jersey (the "Teva Litigation"). A Markman ruling was issued in that case concerning, among other things, two of the same terms asserted by Wyeth here. The parties settled the case before trial, and the New Jersey district court vacated its Markman ruling.

III. LEGAL STANDARD

Claim construction is a question of law. Markman v. Westview Instruments, Inc., 52 F.3d 967, 977-78 (Fed. Cir. 1995), aff'd, 517 U.S. 370, 388-90 (1996). When construing the claims of a patent, a court considers the literal language of the claim, the patent specification and the prosecution history. Markman, 52 F.3d at 979. Of these sources, the specification is considered the single best guide for discerning the meaning of a claim. Phillips v. AWH Corporation, 415 F.3d 1303, 1312-1317 (Fed. Cir. 2005).

A court may consider extrinsic evidence, including expert and inventor testimony, dictionaries, and learned treatises, in order to assist it in understanding the underlying technology, the meaning of terms to one skilled in the art and how the invention works. Phillips, 415 F.3d at 318-319; Markman, 52 F.3d at 979-80 (citations omitted). However, extrinsic evidence is considered less reliable and less useful in claim construction

than the patent and its prosecution history. Phillips, 415 F.3d at 318-319 (discussing "flaws" inherent in extrinsic evidence and noting that extrinsic evidence "is unlikely to result in a reliable interpretation of a patent claim scope unless considered in the context of intrinsic evidence").

In addition to these fundamental claim construction principles, a court should also interpret the language in a claim by applying the ordinary and accustomed meaning of the words in the claim. Envirotech Corp. v. Al George, Inc., 730 F.2d 753, 759 (Fed. Cir. 1984). If the patent inventor clearly supplies a different meaning, however, then the claim should be interpreted according to the meaning supplied by the inventor. Markman, 52 F.3d at 980 (noting that patentee is free to be his own lexicographer, but emphasizing that any special definitions given to words must be clearly set forth in patent). If possible, claims should be construed to uphold validity. In re Yamamoto, 740 F.2d 1569, 1571 (Fed. Cir. 1984) (citations omitted).

IV. CONSTRUCTION OF THE DISPUTED TERMS AND/OR PHRASES

A. "Extended Release Formulation"

With respect to the term "extended release formulation," Impax contends that the term requires specific ingredients referred to in the specification. Specifically, Impax contends that "extended release formulation" means "a formulation comprising venlafaxine, microcrystalline cellulose, and

optionally, HPMC coated with a mixture of ethyl cellulose and HPMC in an amount needed to provide a specific unit dosage administered once-a-day to provide a therapeutic blood plasma level of venlafaxine over the entire 24 hour period of administration." Impax contends that other extended release technologies exist and were known to those skilled in the art, including such technologies as drug-coated sugar beads, diffusion systems, reservoir systems, enteric coatings and waxing coatings. However, Impax contends that these other technologies are not embraced by the specifications for the patents-in-suit, because the inventors specifically referenced certain ingredients necessary for the extended release formulation they claimed. Impax also directs the Court to the Markman ruling issued by the New Jersey district court in the Teva Litigation, which adopted this approach.

In response, Wyeth contends that the term "extended release formulation" should be construed consistent with its ordinary and customary meaning, and therefore, no specific ingredients are required to define the term. In support of its argument, Wyeth relies on the doctrine of claim differentiation, pointing out to the Court that the asserted method claims recite "extended release formulation" without specifying ingredients, whereas other unasserted claims recite an "extended release formulation" with specific ingredients. Because the unasserted claims would

become redundant if "extended release formulation" is construed to require specific ingredients, Wyeth contends that the term "extended release formulation" must be construed more generally to mean "a formulation, other than a hydrogel tablet, which releases the active ingredient at a slower rate than the immediate release formulation of the active ingredient such that the dosing frequency is once-a-day rather than the plural daily dosing for the immediate release formulation."

Reviewing the plain language of the asserted claims in light of the patents' specifications and prosecution histories, the Court agrees with Wyeth's position that the term "extended release formulation" should not be limited to specific ingredients. As Wyeth points out, the asserted claims do not define the claimed "extended release formulation" by reference to any specific ingredients except for the active ingredient venlafaxine hydrochloride. Several unasserted claims, however, including certain claims dependent on those asserted here, recite specific inactive ingredients. As the Court of Appeals for the Federal Circuit recently reiterated in Honeywell Int'l Inc. v. Universal Avionics Sys. Corp., "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." Id. (quoting Phillips v. AWH Corp., 415 F.3d at 1315; see also Saunders Group, Inc. v. Comfortrac, Inc., 492

F.3d 1326, 1333 (Fed. Cir. 2007) (noting that some passages of patent specification described device as comprising at least one pressure activated seal, but noting that those passages do not expressly state that the pressure activated seal is an essential component of the invention and declining to limit the claims "where the language of the claims so clearly distinguishes between those claims that require the presence of a pressure activated seal and those that do not . . .").

Impax directs the Court to portions of the specification which it contends override this presumption and demonstrate that the inventors intended to limit the term "extended release formulation" to specific active ingredients. Reading the specification as a whole and in context, the Court is not persuaded that it supports the claim limitations sought by Impax. Throughout the specification, the claimed invention is described first in broad terms and later in more narrow terms. These broad terms describe a "use aspect" of the invention which correspond to the method claims Wyeth asserts here. The portions of the specification relating to this "use aspect" do not limit the "extended release formulation" to a specific list of inactive ingredients, and instead, describe the methods of achieving certain results that represent the claimed invention in terms of an "extended release formulation of venlafaxine hydrochloride." For example, the specification provides:

[I]n accordance with the use aspect of this invention, there is provided a method for moderating the plural blood plasma peaks and valleys attending the pharmacokinetic utilization of multiple daily tablet dosing with venlafaxine hydrochloride which comprises administering to a patient in need of treatment with venlafaxine hydrochloride, a one-a-day, extended release formulation of venlafaxine hydrochloride.

Ex. 1, col. 2:38-45 (emphasis added).

Similarly, the specification goes on to describe another "use aspect" of the invention in similar terms:

Thus, in accordance with this use aspect of the invention there is provided a method for reducing the level of nausea and incidence of emesis attending the administration of venlafaxine hydrochloride which comprises dosing a patient in needs of treatment with venlafaxine hydrochloride with an extended release formulation of venlafaxine hydrochloride once a day in a therapeutically effective amount.

Ex. 1, col. 2:55-62 (emphasis added). With respect to the more narrow descriptions provided for in the specification, the Court concludes that those descriptions either relate to the "formulation aspect" of the invention contained in the unasserted claims and/or suggest preferred embodiments for practicing the invention. The Federal Circuit has cautioned against importing limitations from the specification into the claim language¹, and the Court declines to do so, particularly, where as here, it is

¹ See e.g., Pfizer Inc. v. Ranbaxy Labs., Ltd., 457 F.3d 1284, 1290 (Fed. Cir. 2006) ("while the examples do describe reaction sequences that produce racemates, restricting claim 1 on this basis would improperly import limitations from the specification into the claims . . ."); Phillips, 415 F.3d at 1323.

not clear to the Court from the portions of the specification cited by Impax that the inventors intended to depart from the ordinary and customary meaning of the term "extended release formulation." Vitrionics Corp. v. Conception, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996) (recognizing that a patentee may choose to be his own lexicographer and depart from the ordinary and plain meaning words, "as long as the special definition of the term is clearly stated in the patent specification or file history".) Indeed, when a departure from the ordinary meaning of the term "extended release formulation" was required, as in the unasserted formulation claims, the claim language and the corresponding portions of the specification specifically go on to list the ingredients required for the "extended release formulation." That this list of ingredients was not provided with respect to the method claims and the portions of the specification corresponding to the method claims leads the Court to believe that the inventors knew how to limit the term when they so desired, and chose not to do so with respect to the method claims.

The Court's conclusion in this regard is also consistent with the prosecution histories of the patents. Initially, the patent examiner concluded that the method claims would only be patentable if Wyeth agreed to make those claims dependent upon the product claims recited in the patent. The first examiner's

approach to the patents reflected his view that "extended release formulation" was broadly interpreted and not limited to specific ingredients. Although Wyeth initially agreed to this amendment and the examiner issued a Notice of Allowance, Wyeth later abandoned the application and refiled a continuation-in-part application which left the method claims in the broader form, without making them dependent on the narrower product claims. The second examiner allowed the refiled method claims to issue without rejection or amendment.

Impax also contends that the Court should not adopt Wyeth's proposed construction of the term "extended release formulation," because it excludes hydrogel tablets, and therefore, it is not consistent with the ordinary and plain meaning of the term "extended release formulation" as that term is used by one skilled in the art. As Wyeth points out, however, hydrogel tablets do not produce the desired dissolution rates called for in the patents. In this regard, the specification explains:

Numerous attempts to produce extended release tablets by hydrogel technology proved to be fruitless because the compressed tablets were either physically unstable (poor compressibility or capping problems) or dissolved too rapidly in dissolution studies.

* * *

Thus, the desired dissolution rates of sustained release dosage forms of venlafaxine hydrochloride, impossible to achieve with hydrogel tablet technology, has been achieved with the film-coated spheroid compositions of this invention.

Ex. 1, col. 4, ll. 60-64, col. 10, ll. 53-57 (emphasis added). In the Court's view, the emphasized language makes it clear that hydrogel tablets are not within the scope of the invention, and therefore, the Court concludes that hydrogel tablets are properly excluded from the construction of the term "extended release formulation." Accordingly, the Court construes the term "extended release formulation" to mean "a formulation, other than a hydrogel tablet, which releases the active ingredient at a slower rate than the immediate release formulation of the active ingredient such that the dosing frequency is once-a-day rather than the plural daily dosing for the immediate release formulation."

B. "Diminished Incidences of Nausea and Emesis"

Wyeth contends that the term "incidences" as related to the phrase "diminished incidences of nausea and emesis" should be construed to mean a reduced degree and/or frequency of nausea and emesis. Specifically, Wyeth contends that "diminished incidences of nausea and emesis" means "the degree and/or frequency of nausea and emesis from the extended release formulation administered once a day is less than what would be experienced by patients receiving the same total daily dose of an immediate release formulation that is administered at least twice a day."

In contrast, Impax contends that the term "incidences" refers to the number of patients with nausea and emesis. Thus,

Impax contends that the "diminished incidences of nausea and emesis" means "a decrease in the number of patients suffering from nausea and vomiting compared to patients receiving the same total daily dose of an immediate release formulation that is administered at least twice a day."

The parties agree that the prosecution history is not instructive regarding the meaning of this phrase. Accordingly, the Court must turn to the claim language and the specification for instruction regarding the meaning of the phrase "diminished incidences of nausea and emesis." The term "diminished" is used only in the claim language and not elsewhere in the specification. However, the specification discusses the effect of the invention on nausea and emesis in three specific areas. First, the Abstract of the invention discloses that the invention "provides a lower incidence of nausea and vomiting than conventional tablets." (emphasis added). The Background of the Invention discusses nausea and emesis in the context of the immediate release tablets using a numerical focus. Specifically, the Background of the Invention explains that "[w]ith the plural daily dosing regimen, the most common side effect is nausea, experienced by about forty five percent of patients under treatment with venlafaxine hydrochloride. Vomiting also occurs in about seventeen percent of the patients." Ex. 1, col. 1, l. 63 - col. 2, l. 11 (emphasis added). The Brief Description of

the Invention contrasts the clinical advantages of the invention with the disadvantages of multiple daily dosing and discusses nausea and emesis in more general terms, as follows:

The use of the one-a-day venlafaxine hydrochloride formulations of this invention reduces by adaptation, the level of nausea and incidence of emesis that attend the administration of multiple daily dosing. In clinical trials of venlafaxine hydrochloride ER, the probability of developing nausea in the course of the trials was greatly reduced after the first week. Venlafaxine ER showed a statistically significant improvement over conventional venlafaxine hydrochloride tablets in two eight-week and one 12 week clinical studies. Thus, in accordance with this use aspect of the invention there is provided a method for reducing the level of nausea and incidence of emesis attending the administration of venlafaxine hydrochloride which comprises dosing a patient in need of treatment with venlafaxine hydrochloride with an extended release formulation of venlafaxine hydrochloride once a day in a therapeutically effective amount.

Ex. 1, col. 2, ll. 45-62 (emphasis added).

Reviewing the specification as a whole and in context, the Court concludes that the inventors did not intend to limit the term "diminished incidences of nausea and vomiting" to a numerical or percentage based definition. Interestingly, that portion of the specification that refers to specific percentages does not even use the term "incidences," which suggests to the Court that the inventors did not necessarily intend to equate the term "incidences" with percentages or numbers. Further, instructive to the Court is the specification's reference to nausea, which embraces terminology pertaining to both degree and/or frequency. For example, the Abstract discusses the "lower

incidence of nausea and vomiting" while the Brief Description of the Invention refers to "reducing the level of nausea and incidence of emesis." The interchangeable use of the terms "level" and "incidence" in the specification with respect to nausea, along with the inventors' failure to specifically equate the term "incidences" with either percentages or numbers in the specification, leads the Court to believe that Wyeth's broader definition of the term "diminished incidences of nausea and emesis" is correct. Indeed, the Court agrees with Wyeth that if the inventors intended to maintain a strictly numerical focus with respect to the "diminished incidences of nausea and emesis" the claim language would have used a term more commonly connected to numerical values such as "fewer incidences of nausea and emesis" or would have alternatively linked the claim language more specifically to a decreased percentage or number of patients suffering from nausea and emesis. Instead, the inventors used the term "diminished incidences." Unlike the term "fewer," the term "diminished" is not limited to a numerical focus. Instead, the term "diminished" suggests the broader concept of a reduction in size, number and degree. Accordingly, the Court concludes that Wyeth's proposed construction of the term diminished is consistent with the choice of wording in the claim, as well as with the descriptions provided for in the specification, and therefore, the Court construes the phrase "diminished "incidences

of nausea and emesis" to mean "the degree and/or frequency of nausea and emesis from the extended release formulation administered once-a-day is less than what would be experienced by patients receiving the same total daily dose of an immediate release formulation that is administered at least twice a day."

C. "A Method For Eliminating The Troughs And Peaks Of Drug Concentration In A Patient's Blood Plasma"

The phrase "[a] method for eliminating the troughs and peaks of drug concentration in a patient's blood plasma" appears as the preamble to claims 21, 24, and 25 of the '171 patent and claims 2, 5, and 6 of the '958 patent. Each of these asserted claims recite a method of orally administering an encapsulated extended release formulation that provides a single peak blood plasma level in about four to about eight hours after administration, thereby eliminating the troughs and peaks of drug concentration in a patient's blood plasma.

Impax contends that the disputed phrase means that "the peak(s) and trough(s) due to the 'therapeutic metabolism' of any second or third dose given in a single day is eliminated by dosing only once in 24 hours." Wyeth contends that Impax's definition does not correctly grasp the claims, because eliminating the peaks and troughs of a second or third dose of venlafaxine hydrochloride, but not the sharp peak and trough of the first dose, is not the same as having a profile of one peak

and one trough extended over a twenty-four hour period. Thus, Wyeth proposes a more detailed construction that explains how the troughs and peaks are eliminated:

A method in which the extended release formulation is administered once in a 24-hour period, resulting in a venlafaxine blood plasma concentration that rises to a maximum value, followed by a generally protracted decrease over the remaining period while maintaining during that 24-hour period levels of venlafaxine in blood plasma that are sufficient to provide, during the course of treatment, relief from the condition being treated, thereby eliminating the multiple sharp peaks and troughs resulting from multiple daily dosing of the same total daily dose of the immediate release formulation as reflected in a graph of venlafaxine blood plasma concentration versus time.

Reviewing the claim language in light of the specification², the Court concludes that Wyeth's proposed construction is correct. The specification explains that this invention provides a method for obtaining a "flatted drug plasma concentration to time profile" compared to what could be achieved with multiple daily dosing. Ex. 1, col. 2, ll. 22-24. According to the Brief Description, this effect is possible because immediate release tablets give peak blood plasma levels in two to four hours followed by a gradual decline, while extended release formulations allow the blood plasma levels to rise for "between about five to about eight hours (optimally about six hours) and then begin to fall through a protected, substantially linear

² The prosecution histories of the patents do not illuminate the meaning of this term, and therefore, the Court limits its discussion to the specification and claim language.

decrease from the peak plasma level for the remainder of the twenty four hour period, maintaining at least a threshold therapeutic level of the drug during the entire twenty-four hour period." Id. at col. 2, ll. 29-38. Stated another way, the claimed extended release formulations provide a method of eliminating the sharp, multiple peaks and troughs associated with multiple daily dosing of the immediate release formulation and replacing those sharp, multiple peaks and troughs with a more controlled flattened blood plasma drug concentration to time profile which includes a peak followed by a gradual and protracted decline.

Impax's proposed construction requires the peaks and troughs of the second and third doses to be eliminated, but maintains the plasma concentration to time profile of immediate release formulations, which is at odds with the specification. Thus, the Court adopts Wyeth's position that the claimed method is a way to flatten the plasma concentration to time profile into a single peak and trough, and not merely to eliminate multiple peaks and troughs. Accordingly, the Court adopts Wyeth's construction, and construes "a method for eliminating the troughs and peaks of drug concentration in a patient's blood plasma" to mean:

A method in which the extended release formulation is administered once in a 24-hour period, resulting in a venlafaxine blood plasma concentration that rises to a maximum value, followed by a generally protracted decrease over the remaining period while maintaining during that 24-hour period levels of venlafaxine in

blood plasma that are sufficient to provide, during the course of treatment, relief from the condition being treated, thereby eliminating the multiple sharp peaks and troughs resulting from multiple daily dosing of the same total daily dose of the immediate release formulation as reflected in a graph of venlafaxine blood plasma concentration versus time.

V. CONCLUSION

For the reasons discussed, the Court has construed the disputed terms and/or phrases of the '171 patent, the '958 patent and the '120 patent as provided herein. An Order consistent with this Memorandum Opinion will be entered setting forth the meaning of the disputed terms and/or phrases in the '171 patent, the '958 patent and the '120 patent.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AFFYMETRIX, INC.,
Plaintiff,
v.
ILLUMINA, INC.,
Defendant.

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: Civil Action No. 04-901 JJF
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:

O R D E R

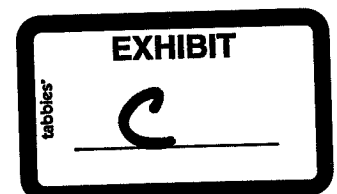
At Wilmington, this 16 Day of August, 2006, for the
reasons set forth in the Memorandum Opinion issued this date,

IT IS HEREBY ORDERED that for the purposes of the United
States Patents at issue in this case, the following terms and
phrases are construed as follows:

1. The phrase "**said beads being coded with an encoding system,**" as used in the claims of U.S. Patent No. 6,355,432, means "said beads having a property associated with each bead (separate from the binding polymer) that can be used to distinguish one bead from another;"

2. The term "**target specific sequence,**" as used in the claims of U.S. Patent No. 6,355,432, means "a known polymer sequence that has affinity for another sequence;"

3. The term "**substrate,**" as used in the claims of U.S. Patent No. 6,646,243, means "a material having a rigid or semi-rigid surface;"



4. The term "**target nucleic acids**," as used in the claims of U.S. Patent No. 6,646,243, means "nucleic acids that are deliberately exposed to the nucleic acids attached to the substrate;"

5. The term "**probe array**," as used in the claims of U.S. Patent No. 5,545,531, means "a collection of probes, at least two of which are different, arranged in a spacially defined and physically addressable manner;"

6. The phrase "**arranged in a spacially defined and physically addressable manner**," as used in the claims of U.S. Patent No. 5,545,531, means "located in a particular location and capable of being addressed;"

7. The phrase "**biological polymers immobilized on a surface**," as used in the claims of U.S. Patent No. 6,399,365, means "two or more surface-immobilized biological polymers that are recognized by a particular target;"

8. The term "**housing**," as used in the claims of U.S. Patent No. 6,399,365, means "a structure that covers, protects, and supports the probe array;"

9. The term "**probe**," as used in the claims of U.S. Patent No. 5,795,716, means "a nucleic acid of known sequence that is capable of hybridizing to its complementary sequence;"

10. The term "**probe intensity**," as used in the claims of U.S. Patent No. 5,795,716, means "intensity from a labeled sample nucleic acid hybridized to a probe location;"

11. The phrase **"corresponding to probe intensities for a plurality of nucleic acid probes,"** as used in the claims of U.S. Patent No. 5,795,716, does not require further construction

12. The phrase **"indicating an extent of hybridization,"** as used in the claims of U.S. Patent No. 5,795,716, means **"indicating the relative strength of binding;"**

13. The phrase **"comparison of said plurality of probe intensities to each other,"** as used in the claims of U.S. Patent No. 5,795,716, means **"an examination of the probe intensities of two or more probes in relation to each other;"**

14. The phrase **"generates a base call identifying said unknown base,"** as used in the claims of U.S. Patent No. 5,795,716, means **"determines which nucleotide is most likely to be present at a particular position in a nucleic acid sequence;"**

15. The phrase **"generates a base call . . . according to results of said comparison and said sequences of said nucleic acid probes,"** as used in the claims of U.S. Patent No. 5,795,716, does not require further construction.


UNITED STATES DISTRICT JUDGE

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AFFYMETRIX, INC., :
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Plaintiff, :
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v. : Civil Action No. 04-901 JJF
 :
ILLUMINA, INC., :
 :
Defendant. :

Michael J. Malacek, Esquire, Daniel R. Reed, Esquire, George C. Yu, Esquire, and Andrea L. Gross of AFFYMETRIX, INC., Emeryville, California; Jack B. Blumenfeld, Esquire and Maryellen Noreika, Esquire of MORRIS, NICHOLS, ARSHT & TUNNELL LLP, Wilmington, Delaware.


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Attorneys for Defendant.

MEMORANDUM OPINION

August 16, 2006
Wilmington, Delaware


Farnan, District Judge

Pending before the Court is Defendant Illumina, Inc.'s ("Illumina") Motion To Dismiss Affymetrix' Count 2 For Lack Of Standing And Subject Matter Jurisdiction (D.I. 234). For the reasons discussed, the Court will deny Illumina's Motion.

BACKGROUND

Plaintiff Affymetrix, Inc. ("Affymetrix") filed this patent infringement action against Illumina contending that Illumina has infringed six patents owned by Affymetrix. Claim 2 of Affymetrix's Complaint (D.I. 1) alleges that Illumina has infringed U.S. Patent No. 5,795,716 (the "'716 patent"). By its Motion, Illumina contends that this Court lacks jurisdiction to hear Claim 2 because Affymetrix has never had legal title to the '716 patent and thus lacks standing to sue for infringement of that patent.

The parties agree that Dr. Robert Lipshutz conceived of the invention claimed in the '716 patent (the "invention") sometime in the summer of 1992. (D.I. 234 at 1; D.I. 246 at 2.) At that time, Dr. Lipshutz was employed by Daniel H. Wagner Associates, Inc. ("Wagner"). In connection with that employment, Dr. Lipshutz signed an "Agreement As To Patents, Copyrights, And Inventions," which contained a paragraph providing, in full:

I hereby agree, for myself, my heirs and representatives, to assign, transfer, and set over, and I do hereby assign, transfer, and set over to the Corporation (for disposition to its clients if

appropriate), its successors and assigns, all my rights, title, and interest in and to any and all designs, ideas, inventions, improvements, and manuscripts or other copyrightable material, which I, either solely or jointly with others may hereafter conceive, make or suggest during my employment by the Corporation or its successors and the six-month period next following the termination of such employment, and which in any way relate directly or indirectly to its or its clients' business problems, procedural, mechanical and commercial needs, and production research or experimental developments and projects of every name and nature under consideration and/or being carried on by or for the Corporation prior to termination of my employment.

(D.I. 234, Ex. C.) Illumina contends that this agreement automatically transferred all rights in the invention to Wagner and that Wagner has never transferred that ownership. (D.I. 253 at 2.) Affymetrix does not dispute the transfer of rights from Dr. Lipshutz to Wagner, but contends that there was a further transfer from Wagner to Affymax Research Institute ("Affymax" or "ARI"), from which Affymetrix was later spun off.

Both before and after Dr. Lipshutz's conception of the invention, Wagner performed consulting work for Affymax. Affymetrix contends that Affymax acquired all rights in the invention as a result of a 1991 consulting agreement (the "1991 Agreement") between Wagner and Affymax. (D.I. 246 at 5.) Section 2 of the 1991 Agreement, entitled "Ownership of Work Product," provides in full:

The Work Product ("Work Product") produced by Consultant under this Agreement and all proprietary rights therein shall be the exclusive property of ARI. Work product includes (but is not limited to)

inventions, discoveries, compounds, reports, memoranda, drawings, computer programs, devices, models, or other materials of any nature, or information relating to any of the foregoing, which are or were generated in connection with the work scope described in Section 1 of this Agreement. Consultant will cooperate with ARI in the enforcement and perfection of ARI's rights.

(Id., Ex. A, Ex. 2 at 1.) Section 1 of the 1991 Agreement, entitled "Work Scope," provides in full:

Consultant shall provide such services as requested by ARI relating to:

Developing search strategies and related software design specifications for VLSIPS data analysis as requested by ARI contact. Work shall follow a three-phase scope:

- development of a tactical outline detailing a set of search strategies,
- implementation of a subset of these search strategies, potentially as an initial global search, supplemented by special case searches,
- evaluation and improvement of search strategies in response to processed data and statistical analysis.

(Id.) Section 10 of the 1991 Agreement, entitled "Sections Surviving Termination," provides in full: "The following sections shall survive the termination of this agreement: Sections 2, 6, 7, 9, 11, and 12." (Id. At 4.) In 1996, after Affymax had spun off Affymetrix, Affymax assigned its rights in the application for the '716 patent to Affymetrix. (D.I. 246, Ex. B.)

DISCUSSION

The parties agree that if Affymetrix owns the '716 patent, its ownership devolves from the operation of the 1991 Agreement.

(D.I. 253 at 5-8; D.I. 246 at 5.) Illumina contends that the 1991 Agreement did not transfer ownership of the invention to Affymax because (1) the 1991 Agreement was not in effect at the time that Dr. Lipshutz conceived the invention, (D.I. 253 at 5); (2) the invention does not fall within the scope of the 1991 Agreement, (Id.); and (3) even if Affymax were entitled to ownership of the invention, the language of the 1991 Agreement was insufficient, by itself, to effect an assignment of Wagner's rights in the invention to Affymax, (Id. at 8-9).

I. Legal Standard

A motion to dismiss under Rule 12(b)(1) challenges the jurisdiction of the court to address the merits of the plaintiff's complaint. Fed. R. Civ. P. 12(b)(1). Under Rule 12(b)(1), a court may dismiss an action for lack of subject matter jurisdiction if the plaintiff lacks standing to bring his claim. Kwan v. United States, 84 F.Supp.2d 613, 617 n.2 (E.D. Pa. 2000). A motion to dismiss under 12(b)(1) may present either a facial or factual challenge to subject matter jurisdiction. See Mortensen v. First Fed. Sav. and Loan, 549 F.2d 884, 891 (3d Cir. 1977). In considering a facial challenge, a court must accept as true, all allegations in the complaint. Id. In contrast, when considering a factual challenge, a court is free to weigh the evidence and no presumption of truthfulness attaches to the plaintiff's allegations. Id. The instant Motion presents

a factual challenge to the Court's subject matter jurisdiction.

II. Whether The 1991 Agreement Was In Effect When Dr. Lipshutz Conceived The Invention

The 1991 Agreement does not explicitly provide for its own termination. Illumina contends that the 1991 Agreement was not in effect when Dr. Lipshutz conceived of the invention in the summer of 1992 because at that time "Wagner was neither doing work for Affymetrix nor being funded by Affymetrix." (D.I. 253 at 7.) However, Section 10 of the 1991 Agreement provides that Section 2, on ownership of work product, survives termination of the agreement. Thus, whether or not the entire 1991 Agreement was still in effect at the time Dr. Lipshutz conceived of the invention, Section 2 was still in effect. Therefore, if the invention was work product within the meaning of Section 2, then Section 2's provision establishing ownership in Affymax applies.

III. Whether The Invention Was Conceived In Connection With The Work Scope Of The 1991 Agreement

The conception of the invention was work product within the meaning of Section 2 of the 1991 Agreement if it occurred "in connection with the work scope" of the Agreement. The Court concludes that it did.

Illumina contends that the conception of the invention was not work product because "the 'work scope' of the 1991 Agreement does not encompass the subject matter of the '716 patent." (D.I. 267 at 3.) While that may be true, it is beside the point.

Under Section 2 of the 1991 Agreement, work product is not limited to things falling within the work scope, but includes things "generated in connection with the work scope." (D.I. 246, Ex. A, Ex. 2 at 1.) The work scope of the 1991 Agreement relates to VLSIPS¹ data analysis. (*Id.*) Synthesis of nucleic acid arrays for use in analyzing nucleic acid sequences is one application of VLSIPS. The invention claimed in the '716 patent is a computer system for analyzing nucleic acid sequences. It is logical then, to conclude that Dr. Lipshutz's conception of the invention arose from his consideration of Affymax's problems related to VLSIPS applications. In other words, his conception of the invention was generated in connection with solving problems related to VLSIPS data analysis. The Court concludes therefore, that the invention was conceived in connection with the work scope of the 1991 Agreement and thus, Affymax acquired the right to ownership of the invention by operation of Section 2 of the 1991 Agreement.

IV. Whether Wagner's Rights In The Invention Were Transferred To Affymax By Operation Of The 1991 Agreement

Finally, Illumina contends that, even if the 1991 Agreement gave Affymax the right to ownership of the invention, legal ownership was never effectively transferred from Wagner to Affymax. (D.I. 267 at 12.) Illumina argues that the 1991

¹ VLSIPS, or Very Large Scale Immobilized Polymer Synthesis, is Affymax/Affymetrix's proprietary technology for synthesizing a large array of polymers in known locations within a relatively small area on the surface of a substrate.

Agreement amounted only to an agreement to assign rights and did not effect a present assignment of future rights. (Id.) In response, Affymetrix contends that the 1991 Agreement effected a present transfer of "proprietary rights" from Wagner to Affymax. (D.I. 268 at 13.) The Court agrees with Affymetrix.

The parties cite five cases in support of their contentions, three of which are from the Federal Circuit. However, the language of Section 2 of the 1991 Agreement differs significantly from the language of the agreements at issue in each of these cases. In both cases in which the agreement at issue was found to be merely an agreement to assign and not an assignment, the agreement contained language indicating that after conception of an invention, some further act was required to transfer title of the invention. See Arachnid, Inc. v. Merit Industries, Inc., 939 F.2d 1574, 1576 (Fed. Cir. 1991) ("[a]ny inventions conceived by IDEA or its employees. . . shall be the property of CLIENT [Arachnid], and all rights thereto will be assigned by IDEA . . . to CLIENT"); Freedom Wireless v. Boston Communications Group, Inc., 220 F.Supp.2d 16, 18 (D. Mass. 2002) ("all inventions . . . belong to the Company. The Employee will promptly disclose such inventions . . . and perform all actions reasonably requested by the Company to establish and confirm such ownership"). On the other hand, in the cases in which the agreement at issue was found to be a present assignment of a future interest, the

agreement contained express language of present conveyance. See Filmtec Corporation v. Allied-Signal Inc., and UOP Inc., 939 F.2d 1568, 1570 (Fed. Cir. 1991) ("MRI agrees to grant and does hereby grant"); Speedplay, Inc., v. Bebop, Inc., 211 F.3d 1245, 1253 (Fed. Cir. 2000) ("All inventions . . . 'shall belong exclusively to [Speedplay] and [Byrne] hereby conveys, transfers and assigns'"); Imatec, LTD. v. Apple Computer, Inc., 81 F.Supp.2d 471, 478 (S.D.N.Y. 2000) ("I agree to assign and hereby do assign"). The Agreement here, however, contains neither the "will assign" language of Arachnid nor the "does hereby grant" language of Filmtec, but simply states that "[t]he Work Product . . . produced by Consultant under this Agreement and all proprietary rights therein shall be the exclusive property of ARI."² (D.I. 246, Ex. A, Ex. 2 at 1.) Therefore, none of the cited Federal Circuit cases is directly controlling here.

The proper construction of assignment agreements is a matter of state contract law. Minco, Inc., v. Combustion Engineering, Inc., 95 F.3d 1109, 1117 (Fed. Cir. 1996). Section 11 of the 1991 Agreement provides that construction of the Agreement "shall

² The Court construes the last sentence of Section 2, "Consultant will cooperate with ARI in the enforcement and perfection of ARI's rights," as obligating Wagner to assist Affymax in prosecuting and enforcing the '716 patent rather than requiring Wagner to take some further action to transfer rights in the invention to Affymax.

be governed by the substantive law of the State of California” (D.I. 246, Ex. A, Ex. 2 at 4.) Under California law, a contract must be interpreted to give effect to the mutual intention of the parties as it existed at the time of contracting. Cal. Civ. Code § 1636. “When a contract is reduced to writing, the intention of the parties is to be ascertained from the writing alone” Cal. Civ. Code § 1639. However, if a contract’s terms are ambiguous or uncertain, “it must be interpreted in the sense in which the promisor believed, at the time of making it, that the promisee understood it.” Cal. Civ. Code § 1649. The only evidence offered in that regard is the deposition testimony of Dr. Lipshutz. When questioned about contracts between Wagner and Affymax, Dr. Lipshutz testified that “[t]he -- the basic idea was we worked together, and we -- Affymetrix owns everything, Affymax. That was -- that was sort of the quid for getting to play.” (D.I. 246 Ex. A, Ex. 4, 179:18-21.)

Dr. Lipshutz’s testimony supports the proposition that both Wagner and Affymetrix understood Section 2 of the 1991 Agreement to be a present assignment of future interests. That proposition is further supported by the fact that Wagner has never challenged Affymax/Affymetrix’s ownership of the invention. The Court concludes therefore, that Section 2 of the 1991 Agreement was a present assignment of future interests and that, upon conception,

legal title to the invention was transferred to Affymax by operation of law. Subsequently, Affymax effectively assigned its rights in the invention to Affymetrix. (See D.I. 246 Ex. B.)

CONCLUSION

For the reasons discussed, the Court concludes that Affymetrix held legal title to the '716 patent during the period of alleged infringement and, therefore, that Affymetrix has standing to sue for infringement of the '716 patent. Accordingly, the Court will deny Illumina's Motion To Dismiss.³

An appropriate order will be entered.

³ By letter dated July 11, 2006 (D.I. 274), Illumina requested the Court's permission to file a reply to Affymetrix's supplemental brief (D.I. 268) because Affymetrix submitted new evidence and argued new issues. Because the Court did not consider any of the evidence or argument of which Illumina complains, a reply brief is not necessary.

[45] **Date of Patent:** Mar. 19, 1985

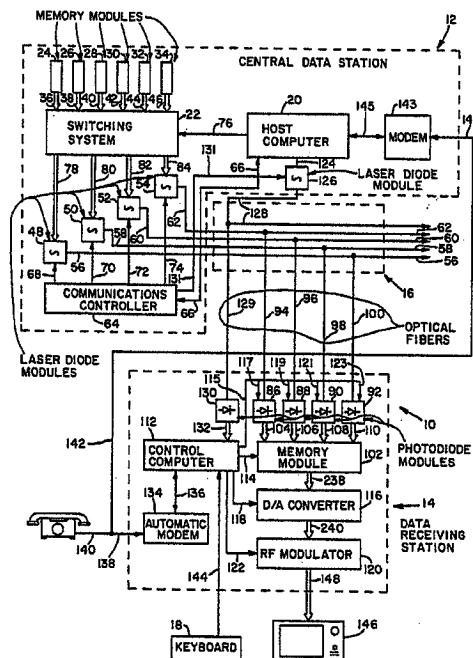
Primary Examiner—Robert L. Griffin
Assistant Examiner—Timothy K. Greer
Attorney, Agent, or Firm—Albert L. Jeffers; Anthony Niewyk

[57] **ABSTRACT**

A programming-on-demand cable system is provided which allows any one of a plurality of individual users to request anyone of a plurality of video programs they wish to view from a library of programs, and permits the requested program to be available for viewing on a conventional television set at the user's location following a request initiated by the user. Each program is preprogrammed in a memory device selectable by a host computer at a central data station in response to an address signal transmitted from the user. The host computer in conjunction with other electronics transmits the video program at a high non-real-time rate over a fiber optic line network to a data receiving station at the user's location. The data receiving station then converts the received optical data back to electrical data and stores it for subsequent real-time transmission to the user's television set. The system permits the user to view any one of a number of programs transmitted on a non-real-time basis, and also allows the user to store the transmitted program at his data receiving station for an indefinite period of time for viewing at a later date. A method is also provided for transmitting the programs on a non-real-time basis.

14 Claims, 4 Drawing Figures

Dr. M. Kawahata, "The HI-OVIS Optical Communication System", (17-20 Sep. 1979).



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Abstract

U.S. Patent Mar. 19, 1985 Sheet 1 of 3 4,506,387

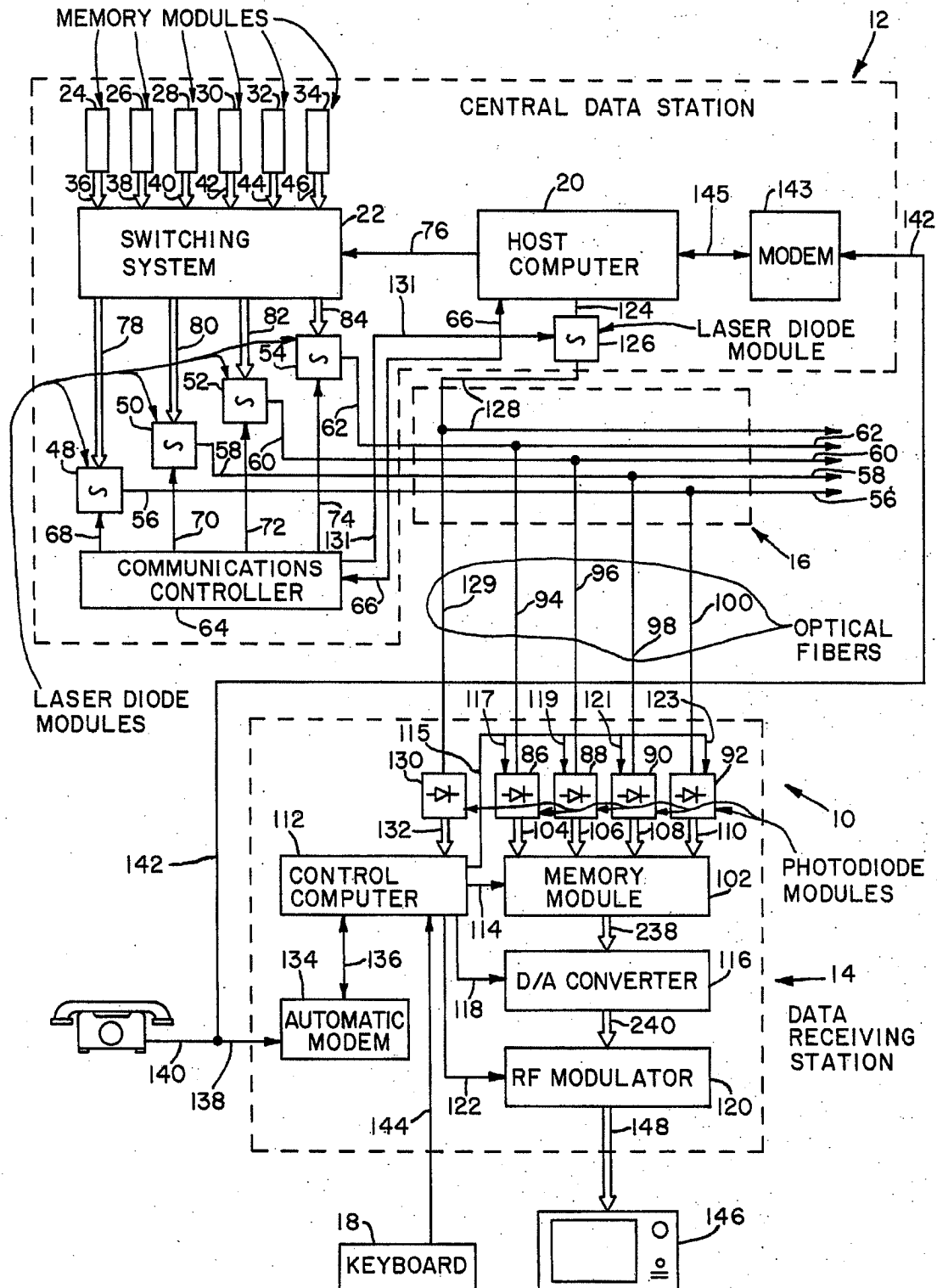


FIG. 1

U.S. Patent **Mar. 19, 1985** **Sheet 2 of 3** **4,506,387**

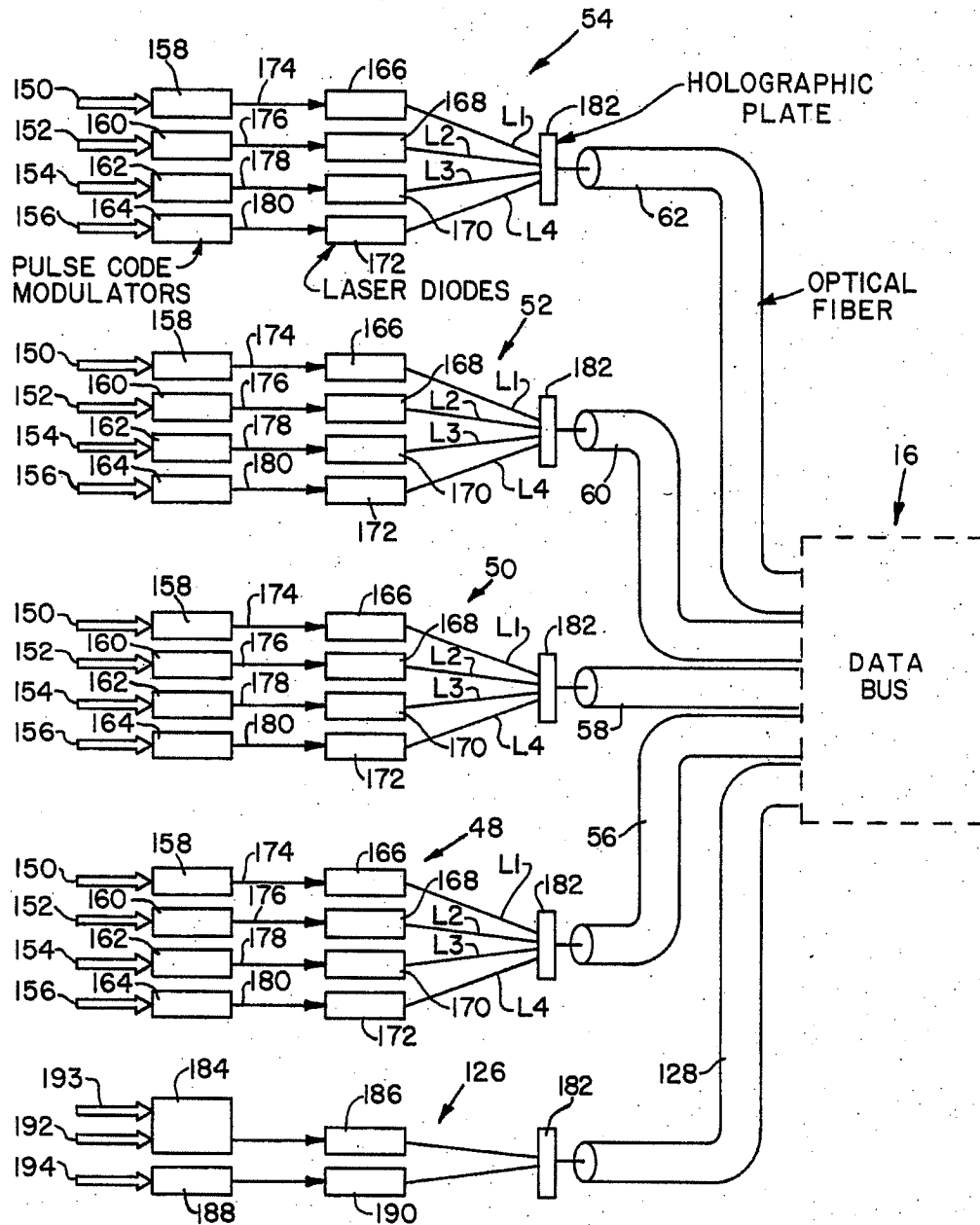


FIG. 2

U.S. Patent Mar. 19, 1985 Sheet 3 of 3 4,506,387

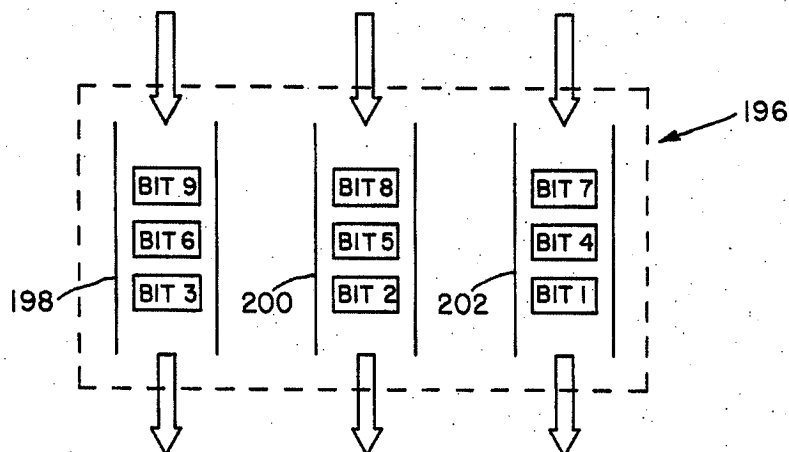


FIG. 3

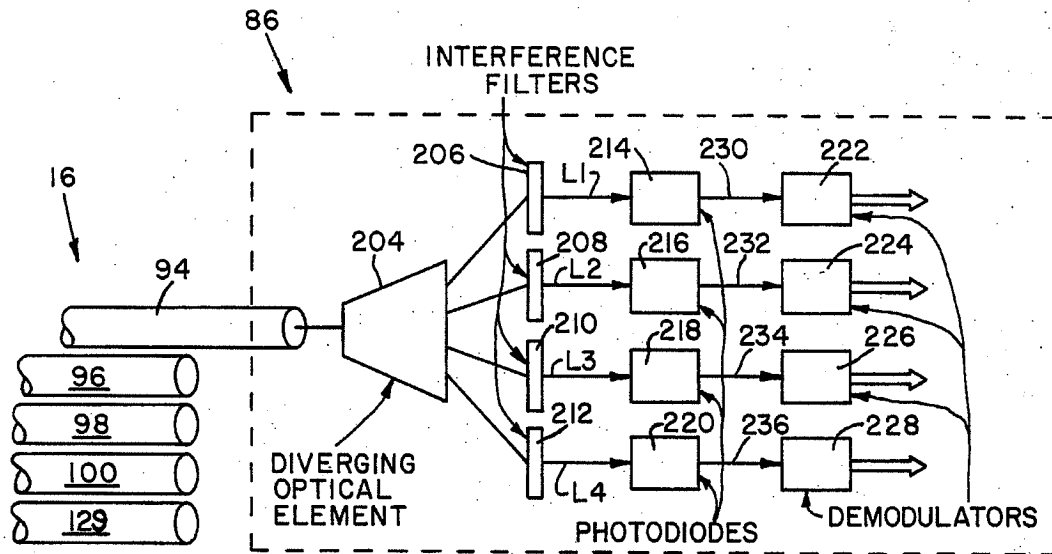


FIG. 4

1

4,506,387

2

PROGRAMMING-ON-DEMAND CABLE SYSTEM AND METHOD

BACKGROUND OF THE INVENTION

This invention pertains to a broadcasting cable system, and more particularly to a programming-on-demand cable system wherein any one of a plurality of stored video programs can be broadcast in a non-real-time basis to a user.

Generally and to the best of applicant's knowledge, existing video broadcast services provide a user any one of a plurality of programs to be viewed on a real-time basis. The user may select any one of the video programs, however, he is restricted in his enjoyment of the program in that the user has no control over when in time the program is broadcast to his video or television set. For example, video programs are routinely announced in video or television guides listing the programs available to the user for his choice in viewing at a specific time of day. Consequently, the user does not have the choice of viewing the program when he so desires, but rather is restricted to that particular time listed in the video or television guide.

Moreover, it would be much too impractical and costly to provide the necessary equipment to process numerous concurrent requests for real-time transmission of video programs at any time desired by the users.

Present broadcasting systems transmit the data by one of many methods, for example, "over-the-air", electrical lines or cables, fiber optic lines or cables, and the like. Presently, transmission by means of fiber optics is becoming more practical, however, the user is still restricted to viewing his program at a broadcasting time not of his choosing.

SUMMARY OF THE INVENTION

The present invention overcomes the problems and disadvantages of present broadcasting systems by providing an improved programming-on-demand cable system.

The programming-on-demand cable system of the present invention overcomes the inability of a user to select any one of a number of video programs for viewing at a time of his choice by providing a non-real-time transmission of the desired program. Any number of various programs are stored in memory devices at a central location or library and are viewable by a user at any time by means of the cable system of the present invention. A host computer at the library is electrically connected to the memory devices, and upon receiving an address signal from a keyboard located at the user's location, the host computer selects the memory device identified by the address signal, and causes the program stored therein to be transmitted by a fiber optic line to a data receiving station at the user's location. A central data station, of which the host computer is a part, causes the program identified by the address signal to be converted from electrical data to optical data and transmitted over the fiber optic line to the data receiving station, which then reconverts the optical data back to the original electrical data. Thereafter, the reconverted electrical data is transmitted to the user's television set for virtually immediate viewing; or the reconverted electrical data is stored in a memory module in the data receiving station for subsequent viewing by the user at the time of his choice. If necessary, the electrical data received by the data receiving station is reconstructed,

which may be necessary if the electrical data is received in a form not acceptable by the television for viewing, and is transmitted at a normal rate to the user's television.

Further, the data transmitted from the central data station to the data receiving station is transmitted in multiplexed fashion so that the equipment at the central data station is dedicated for only a short period of time, for example, on the order of 20 to 30 seconds, thereby minimizing any delay between transmission of an address signal by the user and the receipt of the desired program at the user's location.

To facilitate the storage and manipulation of the video programs, and to allow the method to be placed under automatic computer control, the electrical data representing each video program is converted to compressed digital form and stored in suitable high density memory devices.

In one form of the invention, there is provided an improvement in a broadcasting system including a central data station having means for converting electrical data to optical data, a data receiving station having means for reconverts the optical data back to the electrical data, a fiber optic line means connecting the central data station and data receiving station for transmitting the optical data therethrough, and a broadcasting device electrically connected to the receiving station for receiving and broadcasting the reconverted electrical data to the user. The improvement comprises a plurality of memory devices electrically connected to the central data station, wherein each memory device is identifiable by a respective address signal and has preprogrammed therein respective electrical data representing a video program. Each memory device is responsive to its received address signal to thereby transmit its electrical data to the converting means. A user-operable generator device at the user's location is operatively connected to the central data station for selectively generating any one of the address signals and transmitting a selected address signal to the central data station, whereby the central data station transmits that address signal to the identified memory device which then transmits its electrical data to the converting means for subsequent transmission to and broadcasting by the broadcasting device at the user's location.

The present invention also provides a method for broadcasting on a non-real-time basis any one of a plurality of electrical data representing different video programs comprising the steps of providing a central data station including an electro-optical transducer for converting electrical data to optical data, a data receiving station including an optoelectrical transducer for reconverts the optical data back to the electrical data, a fiber optic line means connecting the transducers, and a broadcasting device electrically connected to the data receiving station for receiving and broadcasting the electrical data transmitted. The method further comprises the steps of providing a plurality of memory devices electrically connected to the central data station, wherein each of the memory devices is identifiable by a respective address signal, and preprogramming each memory device with respective electrical data representing a video or broadcast program, each memory device being responsive to its received address signal to thereby transmit its electrical data to the electro-optical transducer. Further provided is a user-operable generator device at the location of the broadcasting

3

4,506,387

device and which is operatively connected to the central data station and responsive to input applied by the user for generating any one of the address signals. Further steps are applying an input to the generator device to generate a selected one of the address signals, and transmitting the generated address signal to the central data station for identification of the memory device identifiable by the generated address signal. Thereafter, transmitting the generated address signal to the identified memory device, whereby the memory device transmits its electrical data to the electro-optical transducer for converting the electrical data to optical data and transmitting the optical data through the fiber optic line to the optoelectrical transducer for reconverting the optical data back to the electrical data, and then transmitting the electrical data to the broadcasting device for the broadcast thereof.

It is an object of the present invention to provide a programming-on-demand cable system which permits a user to selectively control which program he desires to view at a particular time, subject only to the contents of the library of video programs maintained at the central data station.

Another object of the present invention is to provide a method for allowing a user to selectively control when and what program he desires to view, subject only to the contents of the library of video programs available.

Further objects of the present invention will appear as the description proceeds.

BRIEF DESCRIPTION OF THE DRAWINGS

The above mentioned and other features and objects of this invention, and the manner of attaining them, will become more apparent and the invention itself will be better understood by reference to the following description of an embodiment of the invention taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a schematic of a preferred embodiment of the present invention;

FIG. 2 is a schematic of a portion of the central data station and a multi-fiber data bus of the embodiment in FIG. 1;

FIG. 3 is a schematic illustrating how data is divided among a memory device of the embodiment in FIG. 1; and

FIG. 4 is a schematic illustrating a portion of the multifiber data bus and the data receiving station of the embodiment of FIG. 1.

DESCRIPTION OF A PREFERRED EMBODIMENT

Referring to FIG. 1, programming-on-demand cable system 10 is schematically illustrated generally comprising central data station 12, data receiving station 14, a multi-fiber data bus 16, and keyboard 18.

Central data station 12 includes host computer 20 electrically connected to electronic switching system 22. The electronic switching system 22 is electrically connected to a library of memory modules 24, 26, 28, 30, 32, 34, as indicated by digital data flow arrows 36, 38, 40, 42, 44, 46, respectively. Electronic switching system 22 selectively connects any one of the memory modules 24-34 to multi-fiber data bus 16, as will be described in detail hereinafter. Although only one data bus 16 is illustrated in FIG. 1, the present invention contemplates numerous such data buses 16 wherein electronic switching system 22 is capable of selectively

4

electrically connecting any memory module 24-34 to any one or plurality of other such data buses 16.

Although only six memory modules 24-34 are illustrated in FIG. 1 as representing a library of video programs, it should be understood that more or fewer such memory modules may be included in the library and connected to electronic switching system 22. In this particular embodiment, only six such memory modules 24-34 are illustrated, and each one contains a specific video program for broadcasting. The video programs are preprogrammed into respective memory modules 24-34 in digital format for rapid and inexpensive transmission, as will be described in greater detail below. It should be realized however, that the video programs may be stored in other formats, such as an analog format.

Central data station 12 further includes four laser diode modules 48, 50, 52, 54, each of which includes four pulse code modulators respectively connected in series with four laser diodes for converting digital data to optical data and one holographic plate, a description of which will be made in greater detail below with reference to FIG. 2. Continuing with FIG. 1, laser diode modules 48-54 are optically connected to fiber optic lines 56, 58, 60, 62, respectively, of multi-fiber data bus 16.

Host computer 20 is also electrically connected to communications controller 64 by line 66, which is further electrically connected to respective laser diode modules 48-54 by lines 68, 70, 72, 74. Following a command from host computer 20, communications controller 64 assumes control of fiber optic lines 56-62 of data bus 16.

Host computer 20 is electrically connected to electronic switching system 22 by line 76, and electronic switching system 22 is electrically connected to laser diode modules 48-54 as illustrated by digital data flow arrows 78, 80, 82, 84, respectively.

Continuing to refer to FIG. 1, data receiving station 14 includes four photo-diode modules 86, 88, 90, 92 optically connected to fiber optic lines 62, 60, 58, 56, by fiber optic lines 94, 96, 98, 100, respectively. It is emphasized that fiber optic lines 56-62, which make up four of the five lines in multi-fiber data bus 16, continue on as illustrated in FIG. 1 by arrows to additional users. Each photodiode module 86-92 includes four filters, four photodiodes, and four demodulators connected in series as illustrated in FIG. 4, a more detailed description of which will continue below.

Photodiode modules 86-92 are connected to memory module 102 as illustrated by digital data flow arrows 104, 106, 108, 110, respectively. Data receiving station 14 further includes control computer 112 electrically connected to memory module 102 by line 114, to DA (digital-to-analog) converter 116 by line 118, and to RF modulator 120 by line 122. Control computer 112 is electrically connected to each of the photodiode modules 86, 88, 90, 92 by lines 117, 119, 121, 123, respectively, which branch off from line 115; this allows control computer 112 to transmit clock signals for data that requires synchronization to modules 86-92.

Host computer 20 is connected to control computer 112 by line 124, laser diode module 126, fiber optic line 128, fiber optic line 129 coupled to line 128, photodiode module 130, and digital data flow arrow 132. Laser diode module 126 includes only two pulse code modulators, two laser diodes, and one holographic plate; and photodiode module 130 includes two interference fil-

5

4,506,387

ters, two photodiodes, and two demodulators, which will be described in greater detail below with reference to FIG. 2. Fiber optic line 128 is the fifth of the five fiber optic lines in data bus 16 and continues on as illustrated in FIG. 1 to additional users. Communications controller 64 is connected to control computer 112 by line 131, laser diode module 126, fiber optic lines 128, 129, photodiode module 130, and digital data flow arrow 132.

Data receiving station 14 further includes automatic modem 134 electrically connected to control computer 112 by line 136. Automatic modem 134 communicates with host computer 20 by means of line 138, which is connected to the user's telephone line 140, telephone line 142, modem 143, and line 145.

Keyboard 18 is electrically connected to control computer 112 by line 144, and television 146 is connected to RF modulator 120 by analog data flow arrow 148.

Referring now to FIG. 2, a more detailed description of the interface between central data station 12 and multi-fiber data bus 16 will be made. FIG. 2 illustrates in an exploded manner the method in which laser diode modules 48-54 are operatively connected to fiber optic lines 56-62, respectively, and since the connection between each of the four laser diode modules to its respective fiber optic line is identical only one such description will be made and will suffice for all four.

Briefly, each program in each digital memory module 24-34 is logically divided into 16 data cells in that particular memory module so as to reduce the transmission time of the program. Each laser diode module 48-54 is designed to transmit four of the sixteen cells of data representing the program and are illustrated in FIG. 2 by digital, data flow arrows 150, 152, 154, 156, which are included in, by example only in FIG. 1, digital data flow arrow 46 and make up the digital data flow arrow 84 when memory module 34 is selected.

It should be understood that, while four groups of data streams 150-156 are shown in FIG. 2, the data included in these groups of data streams is not identical. Each of the sixteen illustrated data streams 150-156 transfers data from respective ones of the sixteen unique data cells of one of the memory modules 24-34, each data stream comprising a portion of a single program. Continuing to refer to FIG. 2, four of the sixteen cells of data representing a single program of memory module 34 are separately transmitted to pulse code modulators 158, 160, 162, 164 for subsequent transmission to laser diodes 166, 168, 170, 172, respectively. Pulse code modulators 158-164 are electrically connected to laser diodes 166-172 by lines 174, 176, 178, 180, respectively. Digital data transmitted to pulse code modulators 158-164 are individually modulated and transmitted to laser diodes 166-172 by lines 174-180, and laser diodes 166-172 then transmit the digital data as optical data having different light wavelengths to holographic plate 182. As illustrated laser diodes 166-172 are oriented such that the four different light wavelengths L1, L2, L3, L4, converge at holographic plate 182, which redirects the four wavelengths in a parallel manner to fiber optic line 62. As described, the digital data transmitted to laser diode module 54 is now spectrally multiplexed in fiber optic line 62. Various methods for deflecting light beams, for example, by holographic plates, are disclosed in U.S. Pat. No. 4,062,043 issued Dec. 6, 1977 to Zeidler et al. The methods disclosed in Zeidler are

6

used to deflect multiple light wavelengths onto a single fiber.

In a similar manner the other twelve cells of digital data are likewise spectrally multiplexed and transmitted through fiber optic lines 56-60.

FIG. 2 further illustrates the interface between fiber optic line 128 with central data station 12 and multi-fiber data bus 16 by means of laser diode module 126 comprising pulse code modulator 184 electrically connected in series with laser diode 186 and pulse code modulator 188 electrically connected in series with laser diode 190. Digital data flow arrow 193 represents line 124 connecting host computer 20 to laser diode module 126 in FIG. 1. Digital data flow arrow 193 transmits certain control data from host computer 20 to data receiving station 14 for display on the user's television 146. Digital data flow arrows 192, 194 represent line 131 (FIG. 1) connecting communications controller 64 to laser diode module 126. Flow arrow 192 transmits other control data to control computer 112, and flow arrow 194 illustrates transmission of synchronization data from communications controller 64 to control computer 112. The control and synchronization data are spectrally multiplexed in fiber optic line 128 in an identical manner as described above for line 62.

As explained above, optical data transmitted from laser diodes 166-172 is oriented to converge on holographic plate 182, however, it is recognized that the optical data could be transmitted from laser diodes 166-172 in a parallel fashion to a convex lens to be deflected to holographic plate 182.

Referring now to FIG. 3, an exemplary description will be made of how digital data is stored in one of the memory modules 24-34. FIG. 3 illustrates a memory module 196 containing only three cells 198, 200, 202 in this example. Memory module 196 is of the recirculating shift register type, and is logically divided into the three cells 198-202 and is illustrated as storing a nine bit program. Storing is by the bit rotation logic method wherein bit one is stored in cell 202, bit 2 stored in 200, bit 3 stored in cell 198, bit 4 stored in cell 202, etc. The data are retrieved from memory module 196 in a parallel fashion and are subsequently transmitted to the fiber optic lines of the data bus, which also operate in parallel. The purpose for the use of bit rotation is to permit memory module 102 in FIG. 1 in data receiving station 14 to operate at a lower data rate during playback.

Referring now to FIG. 4, there is schematically illustrated the interface between fiber optic lines 94-100 and 129 at data receiving station 14. Since the interface between fiber optic lines 94-100 are identical, and 129 similar, only one such interface will be described using fiber optic line 94. Fiber optic line 94 is connected to photodiode module 86 comprising diverging optical element 204, interference filters 206, 208, 210, 212, photodiodes 214, 216, 218, 220, and demodulators 222, 224, 226, 228. Photodiodes 214-220 are connected to respective demodulators 222-228 by respective lines 230, 232, 234, 236. The spectrally multiplexed light beam is transmitted from fiber optic line 94 to diverging optical element 204 which divergently transmits the light beam to interference filters 206-212, each of which permits only a discrete wavelength to pass therethrough to thereby demultiplex the light beam. As illustrated in FIG. 4, filter 206 permits only wavelength L1 to pass through, filter 208 permits only wavelength L2, filter 210 permits only wavelength L3, and filter 212 permits only wavelength L4 to pass through. The operation of diverging

7

4,506,387

optical element 204 is known and disclosed in U.S. Pat. No 4,062,043 issued Dec. 6, 1977 to Zeidler et al., which is incorporated by reference herein.

The light wavelengths are then transmitted to photo-diodes 214-220 and demodulators 222-228 for converting the optical data back to the original digital data. The data is then transmitted to memory module 102 as illustrated by digital data flow arrow 104 in FIG. 1. Memory module 102 is arranged identically to memory modules 24-34 with sixteen parallel cells for containing the data.

Thereafter the digital data is retrieved and fed to the DA converter 116 on command from control computer 112 for converting the digital data to analog data, and is then transmitted to RF modulator 120 for subsequent transmission and broadcasting by television 146.

The data in memory modules 24-34 is in compressed digital form, thereby accomplishing a considerable savings in transmission costs. After host computer 20 has signaled electronic switching system 22 to electrically connect the selected one of the memory modules 24-34, host computer 20 then signals communications controller 64 to assume control of the compressed digital data transmitted to laser diode modules 48-54. Communications controller 64 also then assumes control of laser diode module 126. The digital data is compressed in memory modules 24-34 by a technique known as inter-frame differential pulse code modulation. The digital data is received, as described above, at data receiving station 14 and reconstructed by control computer 112. The inter-frame differential pulse code modulation technique just described is known in the art, and additional circuitry may be added to avoid problems caused by rapid motion in the picture. Further, the bit rate requirements may be reduced even further by means of other similar but more complicated procedures.

By utilizing inter-frame differential pulse code modulation, each second of video program playing time yields about 44 megabits. Further, according to the present state of the art, 650 megabits per second can be transmitted on a single wavelength, and since in the present embodiment there are 16 optical data channels in the four fiber optic lines 56, 58, 60, 62, the total transmission rate is 10,400 megabits per second. Therefore, a two hour movie can be transmitted in about 31 seconds (7,200 seconds \times 44 megabits per second / 10,400 megabits per second).

In operation, the user determines which program he desires to watch, and then inputs the correct address signal in keyboard 18 which transmits the signal to computer control 112, which in turn transmits the signal to automatic modem 134. Automatic modem 134 then transmits via lines 138, 142, modem 143, and line 145 the address signal to host computer 20 which determines which data bus 16 serves the user and enters the address signal in a queue for the particular data bus 16 of the user. Host computer 20 then transmits a receipt signal through line 145, modem 143, lines 142, 138, automatic modem 134, and line 136 to control computer 112, which in turn transmits the signal through line 122 to RF modulator 120 for display on television 146, thereby indicating to the viewer that the host computer 20 has received and entered the selected address signal. Thereafter, host computer 20 transmits other instructions and information to the viewer via digital data flow arrow 193 (FIG. 2) which represents line 124 in FIG. 1. When the user's turn comes up, host computer 20 transmits the address signal to electronic switching system 22 which

8

selects the one identified memory module 24-34 containing the selected video program. Following this, host computer 20 signals communications controller 64 to assume control of laser diode modules 48-54, 126, after which communications controller 64 causes electronic switching system 22 to transmit the selected digital data to laser diode modules 48-54 and thereafter to data receiving station 14 as described above. Communications controller 64 communicates with control computer 112, as described above, when each step of the transmission sequence is begun and terminated.

After transmission, the video program is stored in memory module 102 of data receiving station 14 as earlier described, and communications controller 64 communicates with host computer 20 that data transmission is complete. Host computer 20 then informs the user via digital data flow arrow 193 (FIG. 2) that the program is ready for viewing by displaying a ready signal on television 146. The user begins the video program by depressing a "START" switch on keyboard 18, whereby control computer 112 signals memory module 102 to transfer the digital data to DA converter 116 as illustrated by digital data flow arrow 238 for converting the digital data to analog data upon command from control computer 112. Thereafter control computer 112 commands converter 116 to transmit the analog data to modulator 120 as illustrated by digital data flow arrow 240, and then to television 146 via the analog data flow arrow 148.

Although the above description includes converting the digital data to analog data at the data receiving station 14 for display on television 146, it is contemplated that this step may be eliminated with television sets capable of receiving digital data for display thereof.

Although the above description was made in terms of a fully completed transmission of a program before viewing by the user, the present invention fully contemplates that the user may begin viewing his program before the complete transmission thereof. Central data station 12 may transmit only a portion of the selected program to the user for his viewing, and then begin transmitting a portion of another selected program to a second user. This permits central data station 12 to simultaneously handle several users, rather than waiting for complete transmission of one selected program before proceeding with another user's address signal.

While this invention has been described as having a preferred embodiment, it will be understood that it is capable of further modifications. This application is therefore intended to cover any variations, uses, or adaptations of the invention following the general principles thereof, and including such departures from the present disclosure as come within known or customary practice in the art to which this invention pertains and fall within the limits of the appended claims.

What is claimed is:

1. In a broadcasting system including a central data station, a data receiving station, a fiber optic line means connecting said central data station and said data receiving station, said central data station including means for converting electrical data to optical data and transmitting said optical data through said fiber optic line means to said data receiving station, said data receiving station including means for reconverting said optical data back to said electrical data, and a broadcasting means electrically connected to said data receiving station for receiving and broadcasting said electrical

9

4,506,387

data transmitted from said data receiving station, the improvement comprising:

- a plurality of memory devices electrically connected to said central data station, each memory device being identifiable by a respective address signal and having a plurality of data cells, each data cell having electrical data representing a portion of a broadcast program preprogrammed therein such that said memory device contains an entire broadcast program, each said memory device being responsive to its received said address signal transmitted thereto from said central data station to transmit its said electrical data to said converting and transmitting means, and
- a user-operable generating means near said broadcasting means and operatively connected by telephone line to said central data station for selectively generating any one of said address signals and transmitting said one address signal to said central data station, whereby said central data station transmits said one address signal to one of said memory devices identified by said one address signal, said one memory device transmitting its said electrical data to said converting and transmitting means for converting said electrical data to pulse code modulated optical data and transmitting said optical data through said fiber optic line means to said data receiving station, said converting and transmitting means comprising a plurality of parallel transmission means for simultaneous transmission of said optical signals representing electrical data in each of said data cells, said reconverting means reconverting said optical data back to said electrical data and said data receiving station transmitting said electrical data to a memory device for selective transmission to said broadcasting means for the broadcast of said broadcast program represented by said electrical data to the user.
2. The system of claim 1 wherein said memory devices are programmable digital memory devices, each said programmable digital memory device having its respective said electrical data preprogrammed therein in digital form.
3. The system of claim 2 wherein said data receiving station includes a digital-to-analog converter means for converting electrical data from digital to analog form for transmission to said broadcasting means.
4. The system of claim 2 wherein said broadcasting means includes a digital-to-analog converter means for converting electrical data received from said data processing station from digital to analog form for the broadcasting thereof.
5. The system of claim 2 wherein said memory devices have their respective said digital electric data preprogrammed therein in compressed digital form.
6. The system of claim 1 further including a memory means operatively electrically connected to said data receiving station and said broadcasting means for storing therein for an indefinite period of time received electrical data, said memory means being responsive to a received transmit signal for transmitting said stored electrical data therefrom for subsequent broadcast by said broadcasting means, said generating means being operatively electrically connected to said memory means for generating and transmitting a transmit signal to said memory means.

10

7. The system of claim 6 further including a plurality of said data receiving stations connected to said fiber optic line means,

- a like plurality of said broadcasting means electrically connected to respective ones of said data receiving stations for receiving and broadcasting electrical data transmitted from respective said data receiving stations to a plurality of users,
- a like plurality of said memory means operatively electrically connected to respective ones of said data receiving stations and respective ones of said broadcasting means, and
- a like plurality of said user-operable generating means at respective ones of said broadcasting means and connected to said central data station, whereby any one or the plurality of users may individually selectively generate any one of said address signals to store selected electrical data in respective ones of said memory means, and thereafter individually selectively generate a transmit signal for the broadcasting of selected electrical data.
8. The system of claim 7 wherein said broadcast programs are video programs and said broadcasting means are televisions for broadcasting respective ones of said video programs.
9. A method for broadcasting on a non-real-time basis any one of a plurality of electrical data representing different broadcast programs, comprising the steps of:
 - providing a central data station including an electro-optical transducer apparatus for converting electrical data to optical data, a data receiving station including an optico-electrical transducer apparatus for reconverting the optical data back to the electrical data, a fiber optic line comprising a plurality of transmission channels connecting the transducer apparatuses, and a broadcasting device electrically connected to the data receiving station for receiving and broadcasting the electrical data transmitted from the data receiving station,
 - providing a plurality of memory devices electrically connected to the central data station, each memory device having a plurality of data cells and being identifiable by a respective address signal,
 - preprogramming each memory device data cell with electrical data representing a portion of a broadcast program such that each memory device contains an entire broadcast program, each memory device being responsive to its received address signal to thereby transmit its electrical data to the electro-optical transducer apparatus,
 - providing a user-operable generating device at the location of the broadcasting device, the user-operable generating device being electrically connected by a telephone line to the central data station and responsive to input applied by the user for generating any one of the address signals,
 - applying an input to the generating device to generate a selected one of the address signals,
 - transmitting the generated address signal to the central data station for identification of the memory device identifiable by the generated address signal,
 - transmitting the generated address signal to the identified memory device, whereby the memory device simultaneously transmits the electrical data in each of its data cells to the electro-optical transducer apparatus for converting the electrical data to digital pulse code modulated optical data and then transmits the optical data through the plurality of

4,506,387

11

transmission channels of the fiber optic line to the optico-electrical transducer apparatus for re-converting the optical data back to the electrical data, each of said channels carrying a separate portion of said entire broadcast program, and

thereafter transmitting the electrical data to the broadcasting device for the broadcasting thereof.

10. The method of claim 9 wherein the electrical data preprogrammed in each respective memory device is in digital form.

11. The method of claim 10 further including the step of providing the data receiving station with a digital-to-analog converter for converting digital electrical data to analog electrical data for broadcasting by the broadcasting device.

12. The method of claim 11 wherein the step of pre-programming each memory device with electrical data in digital form includes preprogramming the electrical data in compressed digital form.

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13. The method of claim 9 further including the step of storing the electrical data reconverted by the optico-electrical transducer apparatus in an other memory device operatively electrically connected to the data receiving station and the broadcasting device for broadcasting at a later time.

14. The method of claim 13 wherein the other memory device is responsive to a received transmit signal for transmitting its stored electrical data to the broadcasting device, and wherein the user-operable generating device is operatively electrically connected to the other memory device and responsive to other input applied by the user for generating and transmitting the transmit signal to the other memory device, and

15 further including the step of applying other input to the generating device, whereby the other memory device transmits its stored electrical data to the broadcasting device.

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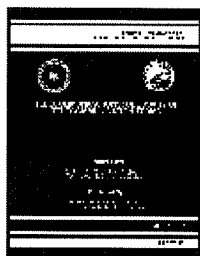
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data stream

data stream: A sequence of digitally encoded signals used to represent information in transmission.

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decode

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decode

Main Entry: **de-code** (dē-kōd)
 Pronunciation: (dē-kōd)
 Function: *transitive verb*
 Date: 1896

1 a : to convert (as a coded message) into intelligible form **b** : to recognize and interpret (an electronic signal)
2 a : DECIPHER **3a b** : to discover the underlying meaning of <decode the play's imagery>

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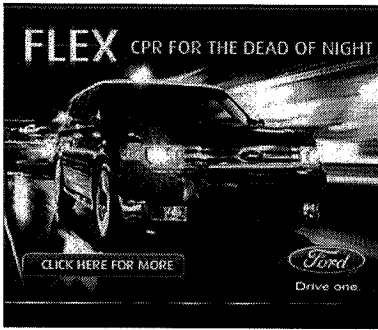
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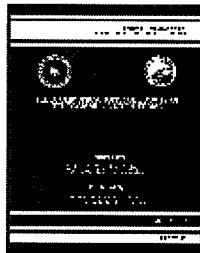




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decode

decode: 1. To convert data by reversing the effect of previous encoding. (188) 2. To interpret a code. 3. [To] convert encoded text into equivalent plain text by means of a code. [NIS] (188) *Note:* Decoding does not include deriving plain text by cryptanalysis.

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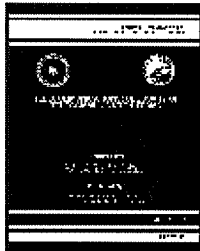
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storage

storage: 1. The retention of data in any form, usually for the purpose of orderly retrieval and documentation. [JP1] 2. A device consisting of electronic, electrostatic, electrical, hardware or other elements into which data may be entered, and from which data may be obtained, as desired. [JP1]

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
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storing

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store[1,transitive verb]

Main Entry: 'store' 
Pronunciation: \stôr\
Function: *transitive verb*
Inflected Form(s): **stored; stor-ing**
Etymology: Middle English, from Anglo-French *estorer* to establish, restore, supply, from Latin *instaurare* to resume, restore
Date: 13th century

1 : LAY AWAY, ACCUMULATE <store vegetables for winter use> <an organism that absorbs and *stores* DDT>
2 : FURNISH, SUPPLY; *especially* : to stock against a future time <store a ship with provisions>
3 : to place or leave in a location (as a warehouse, library, or computer memory) for preservation or later use or disposal
4 : to provide storage room for : HOLD <elevators for *storing* surplus wheat>
— storable  \stôr-ə-bəl *adjective*

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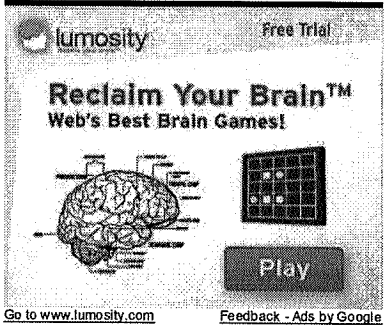
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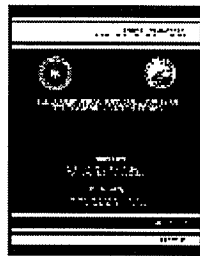




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access

access: 1. The ability and means necessary to store data in, to retrieve data from, to communicate with, or to make use of any resource of a system. (188)

2. To obtain the use of a resource. 3. (COMSEC) [The] capability and opportunity to gain detailed knowledge of or to alter information or material.

[NIS] 4. (AIS) [The] ability and means to communicate with (*i.e.*, input to or receive output from), or otherwise make use of any information, resource, or component in an AIS. *Note [for 3 and 4]:* An individual does not have "access" if the proper authority or a physical, technical, or procedural measure prevents him/her from obtaining knowledge or having an opportunity to alter information, material, resources, or components.

[NIS] 5. An assigned portion of system resources for one data stream of user communications or signaling. (188)

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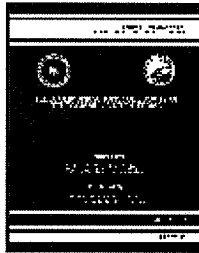
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comparator

comparator: 1. In analog computing, a functional unit that compares two analog variables and indicates the result of that comparison. 2. A device that compares two items of data and indicates the result of that comparison. 3. A device for determining the dissimilarity of two items such as two pulse patterns or words.

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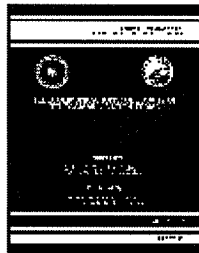
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erase

erase: 1. To obliterate information from a storage medium, such as to clear or to overwrite. (188) 2. In a magnetic storage medium, to remove all stored data by (a) changing the medium to an unmagnetized state or (b) changing the medium to a predetermined magnetized state. 3. In paper tape and punched card storage, to punch a hole at every punch position.

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erase

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erase

Main Entry: **erase** 

Pronunciation: \i-'rās, British -'rāz\

Function: *verb*

Inflected Form(s): **erased; eras-ing**

Etymology: Latin *erasus*, past participle of *eradere*, from *e-* + *radere* to scratch, scrape — more at **RODENT**

Date: 1605


transitive verb


1 a : to rub or scrape out (as written, painted, or engraved letters) <erase an error> **b** : to remove written or drawn marks from <erase a blackboard> **c** : to remove (recorded matter) from a magnetic medium; *also* : to remove recorded matter from <erase a videotape> **d** : to delete from a computer storage device <erase a file>

2 a : to remove from existence or memory as if by erasing **b** : to nullify the effect or force of

intransitive verb

: to yield to erasure

— **eras·abil·i·ty**  \-'rā-sə-'bi-lə-tē\ *noun*

— **eras·able**  \-'rā-sə-bəl\ *adjective*

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

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